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Editor :
SUTINDER SINGH

C. F. T. R. I., MYSORE

Standards of Higher Education

J K Pillai*

The sphere of higher education has been marked by a phenomenal expansion during the last 30 years all over the world. It must also be accepted that there has been a loss of faith and lack of confidence in the usefulness of University Education. The effectiveness of any system hinges on the system's ability to achieve its objectives. How satisfactory and successful the process is in achieving its objectives would indicate the quality or standards of the system.

What are the Objectives of the Higher Education?

Education Commissions have been constituted in various countries and they have made extensive surveys and examined the basic issues.

According of Robbin's Committee Report of U.K. (1968), Higher Education should

1) Contribute to material prosperity,
2) Promote general powers of the mind of the individuals,
3) Pursue the search for truth, and
4) Build up a healthy society.

According to Carnegie Commission on Higher Education set up in USA in 1967, the purposes of higher education are

1) intellectual, aesthetic, ethical and skill development of individual students,
2) advancing human capability in society at large,
3) support artistic and intellectual creativity, and
4) self renewal of the society through individual thought and persuasion.

The Philospher President, Dr. Radhakrishnan in the University Education Commission Report (1948-49) stated "Education according to Indian tradition is not merely a means to earning a living, nor is it only a nursery of thought or a school of citizenship. It is an invitation into the life of spirit, training of human souls in pursuit of truth and "Practice of Virtue".

While addressing the 37th session of the Central Advisory Board of Education (CABE), the then Prime Minister, Mrs. Indira Gandhi observed "The real purpose of education is to enhance the intellectual horizon and emotional activities so that we may not only have better workers but also better human beings who are mature and who can face the growing challenge".

The Report of the Education Commission (1964-66) outlines the functions of higher education as pursuit of truth, full development of the youth physically, intellectually, socially and morally with a sense of social purpose, to promote equality and social justice, and promote attitudes and values needed for developing the 'good life'.

The National Policy on Education (NPE) (1986) states that education is a unique investment in the present and the future. The aim of Higher Education, according to this policy is facilitating the process of national development through its manifold tasks of generation, dissemination, utilization and expansion of knowledge. Specifying this goal, the NPE recommends fostering the spirit of national integration, international

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understanding, social responsibility, encouraging scientific temper, instilling innovative and creative thinking among students etc should be the objectives of higher education.

Falling Standards

Some of the remarks of the NPE on Higher Education are:

"The condition of Universities and Colleges is a matter of great concern to the nation".

"The facilities in the 6000 odd Colleges vary widely but, on the whole, far below the level of qualitative viability".

"Universities and Colleges are becoming notorious for rampant casteism, regionalism and in-breeding".

"The achievement of the University is judged not on the basis of the quality of its research or the competence of its students but by its adherence to the schedule for examinations and the prevention of forced closures".

"The present system of examination has lost its credibility".

"College and University education lays excessive emphasis on teaching which often degenerates into dictation of unrevised notes prepared long time ago".

"Universities are no more than a part time occupation aimed essentially at the award of degrees, which have generally lost credibility and value".

"Accountability remains a concept without any content".

While discussing quality and education, the NPE says "that a quality conscious system would produce people who have the attributes of functional and social relevance, mental agility and physical dexterity, efficiency and reliability, above all, the confidence and capability to communicate effectively and exercise initiative, innovative ability and experimentation with new situations".

These statements, being the opinion of eminent educationists, indicate, without any doubt, that standards of education and research in many universities in India have declined sharply. But we must also accept that there are no physical measures for evaluating educational standards as standards are subjective in nature. It is also true that there has been no large scale direct objective assessment of standards of higher education over the years. But there are circumstantial evidence for fall in standards. All the statements quoted from NPE are conclusions drawn on the basis of such evidence.

The study of Unfair Means in University Examinations by Association of Indian Universities (AIU) (1989) reveals that unfair means are practised at the pre-conduct stage involving leakage of question papers, mass copying during the conduct stage, and unfair practices during the post- examination stage.

Like black money, black degrees are illegally acquired.

Most of the colleges work less than 100 days in a year and actual teaching days are less than 50.

The evaluation system is faulty and the student, through a process of selection and elimination, can get through the exams by reading 50% of the prescribed syllabus from made-easy guides in the last 100 hours before the exam.

Most of the students including those at the postgraduate level do not read textbooks or reference books or journals.

Teachers hardly teach 150 periods per year.

There is exponential rise in the number of Ph.Ds produced, and most of the people do Ph.D. more for getting a job or promotion and not from any thirst for knowledge.

There are many malpractices and there is networking among friends in adjudication of the theses.

Due to the 'Publish or Perish' pressure, many poor quality papers are being published in poor quality journals.

The results in the national level tests and other competitive examinations indicate the poor quality of graduates.

It is reported that 3000 out of the 6000 colleges are non-viable.

The Reasons

The reasons for the deterioration of standards in terms of quality are listed below from various articles on this subject by eminent educationists – Malcolm Adiseshaiah, Amrik Singh, K.N. Bhatnagar, D.A. Ghanchi, J.N. Kapur, Moonis Raza and Majorie Fernandez.

1) rapid unplanned expansion, inadequate inputs in terms of money, material and talents;
2) no comprehensive policy;
3) timid and unchallenging curriculum;
4) uninspiring and demotivating classroom interactions;
5) resistance to change and innovation by the system;
6) unmotivated students, undedicated teachers;
7) crazy rush for degrees;
8) brain drain – the cream of the student community attracted by foreign countries;
9) in-breeding and parochialism in selection of

teachers;

10) inadequate work pattern, work ethics, and work tempo;
11) lack of professionalism;
12) facilities for corporate life – non existent;
13) low level of aspiration among all concerned;
14) crisis of confidence among the various participants of the system;
15) under performance syndrome;
16) a climate of anomie and alienation, generating attitudes of apathy, negligence and hostility towards the system;
17) a vulgar craving for gains without exertion;
18) inflated valuation of examinations – a substitute for good teaching;
19) colleges, established more for non-academic reasons, such as caste, community or political patronage;
20) exploitation of students in the name of tuitions;
21) students, not averse to resorting to malpractices to get the degree, not bothered about learning or academic scholarship.
22) parents, not averse to use their influences for unfair admission and unfair marks;
23) demographic pressures, aspirational explosion, educational aberration, political contamination, economic compulsion, managerial inadequacies;
24) lack of will power on the part of the UGC and Universities to curb unhealthy practices and disaffiliate sick institutions; and
25) faculty pruning and faculty firing – not possible in the Indian situation

(Collected from articles published in *Journal of Higher Education* (UGC) and *University News* (AIU)).

The three criteria recommended by researchers to judge standards in higher education are adequacy, dynamism and international comparability. Adequacy implies that instruction should be based on identified objectives, dynamism would judge whether instruction changes according to the changing demands of the situation, and international comparability would examine how our students compete with their counterparts in other advanced countries in terms of their motivation, knowledge, competencies and abilities of problem solving. If we use these criteria, we do find that our higher education has not served the goals of national development, it has not helped the growth of the country's economy but has actually impaired and impeded the growth of economy by its inefficiency, low productivity and wastage of resources.

The university system is so rigid that in spite of the many recommendations made by the various commissions, the curriculum has not responded to the changing demands. In terms of international comparability our degrees are not recognised by the advanced countries and in terms of knowledge and competence, there is only a small minority of quality students from the few institutions of excellence. The NPE states, "a preponderant majority come out of institutions of higher education, perhaps with a little more of book learning and of course a degree but with very little capacity for self study, poor language and communication skills, a highly limited world view and hardly any sense of social or national responsibility".

Suggestions for Improving the Standards of Higher Education

1. goals should be redefined in terms of the national goals stated in the constitution ;
2. the existing rigid structures of the university and their functions should be suitably modified,
3. teaching strategies should be transformed and alternate methods should be experimented;
4. teachers should renew themselves from the present rut of teaching for exams – teaching is unique in self accountability;
5. there should be performance linked recruitment and promotion;
6. selection and restricted admission of students with atleast average cognitive ability,positive attitude towards learning and good communication skills. There is nothing like 'right' to higher education;
7. autonomy and freedom should be accompanied by accountability and responsibility;
8. courses and programmes should be redesigned, relevant to the contemporary and emerging needs with flexibility of combination;
9. steps should be taken to ensure high quality of research;
10. a common qualifying test at the national level for all candidates who aspire to become teachers in colleges and universities may be able to tone up the academic life of the universities and minimize in-breeding and attract talent to this profession;
11. a carefully designed programme for training and retraining of teachers might help;
12. no other radical change than enforcing strict discipline is needed for raising standards; and
13. both the teachers and the students should be prepared to work hard to compete in this world of high competition.

CONCLUSION

Standard in a university/college is intimately related to the amount of work put in by its students and teachers.

Standards cannot be maintained or raised by just legislation or merely wishing for them. This requires hard work, commitment, single minded pursuit of excellence with no compromises.

Financing of Higher Education in Andhra Pradesh

M.Sulochana*

Plan Outlays for Education

A rapid growth in the expenditure on education in India is noticed since the planned economic development was envisaged in 1950-51.

Table 1 : Plan Outlays for Education Under Five Year Plans

(Rs. in Crores)

Plan	*Outlay for Education*	*Total Outlay for all Sectors*	*Percentage of Outlay for Education to Total*
First Plan	170	2356	7.2
Second Plan	277	4800	5.8
Third Plan	560	7500	7.5
Fourth Plan	822	15902	5.2
Fifth Plan	1285	39303	3.3
Sixth Plan	1986	97500	2.8
Seventh Plan	N.A.	N.A.	3.5

Source: 1. Trends of Expenditure on Education 1968-69/1978-79, Ministry of Education and Culture, Govt. of India.

2. A Handbook of Education And Allied Statistics, Ministry of HRD, Govt. of India, 1987.

Allocations on education have been indicating uncertain trends in the prospects of developmental growth in expenditure on education as can be seen from Table 1. It was however no solace that in the VII Plan the allocation was slightly rasied to 3.5%.

The Kothari Commission recommended as early as 1966 that the minimum allocation on education should be six percent of GNP. India has not reached that desideratum even after a lapse of twenty five years.

Table 2 : Plan Outlay Percentages on Different Sub-Sectors of Education Under Five Year Plans

Sub-Sector	*First Plan*	*Second Plan*	*Third Plan*	*Fourth Plan*	*Fifth Plan*	*Six th Plan*
University and other higher education	8.9	18.6	15.0	22.3	20.0	19.0
Technical Education	13.6	15.6	21.0	15.2	9.0	N A
Elementary Education	55.0	28.9	30.0	28.5	43.0	36.0
Secondary Education	13.0	16.6	18.0	14.4	14.0	N A
Others	9.5	20.3	16.0	19.6	14.0	N A
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Five Year Plan documents.

Allocation for Higher Education

However it is an encouraging feature that higher education on which expenditure rose"from Rs. 18

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crores in 1950-51 to Rs. 885 crores in 1984-85" [1] is given considerable importance in the allocation of funds. The proportion of expenditure on higher education in the national income also registered an increase from 0.2% to 0.5% during the above period.[2] Though this appears to be impressive, the growth in expenditure on higher education is more apparent than real. In terms of priorities within the education sector higher education, the top step of learning has been relegated to the bottom position. "During 1970-71 to 1983-84, allocation on higher education increased from 0.43% to 0.58% only as against an increase of 2.62% to 4.12% of the GNP for the overall education sector".[3] A perusal of the percentage of plan outlay in the first six five year plans given in Table 2 indicates that it ranged from 8.9% in the First Plan to 22.3% in the Fourth Plan. However it registered a decreasing trend in the Fifth Plan (20%) & Sixth Plan (19%). Final figures of expenditure during Seventh Plan are yet awaited.

However, budget estimates of expenditure on university education during 1985-86 (first year of 7th Plan) are available and are given in Table 3 which demonstrate that higher education received a lower priority (14.3 %) over the successive plans. There is an apprehension that there would be further decrease in the allocation in the Eighth Plan.

Higher education engulfed with problems of uncontrolled growth of numbers needed much more allocation of resources than what was done. For instance the growth in enrolment in higher education was eighteen times during 1950-51 to 1982-83. On the other hand, the expenditure on higher education as mentioned above grew from 0.2% of the GNP to 0.6%. "At this rate and taking the rupee value at the 1950-51 level, the expenditure during 1982-83 should have been 3.6% of the GNP. Further judging from the rupee value of 16 paise at present (1982-83) the expenditure on higher education be about 22.8% of the GNP."[4]

The inadequacy of increase in expenditure on higher education is further emphasized by an addition of over fifty universities (including deemed universities) and about two thousand colleges during the above period.

There was thus only a marginal increase in the expenditure on higher education and even this increase is set off by the inflation which resulted in negligible growth in real terms.

International Comparisons

The developed countries accounted for 85.3 percent of the total world expenditure on education in 1982 while they were responsible for only 27 percent of the world enrolment. As against this, the developing countries expended 14.7 percent of the world expenditure while they had in their territories 73 percent of the world enrolment. India had about 14 percent of the

Table 3 : Budget Estimates of Expenditure on Various Sub-Sectors of Education and Between Plan and Non-Plan in Respect of Central and State Sectors of Education Departments for 1985-86.

Sector	*Plan*		*Non-Plan*		*Total*	
	Amount	*% age*	*Amount*	*% age*	*Amount*	*% age*
Elementary Education	311.45	38.0	2849.73	45.5	3161.18	44.6
Secondary Education	118.77	14.5	2030.41	32.4	2149.18	30.3
Adult Education	0.58	0.1	0.97	0.1	1.55	0.1
University Education	124.95	15.2	890.56	14.2	1015.51	14.3
Physical Education	27.05	3.3	69.07	1.1	96.12	1.4
Other Programmes	150.22	18.3	202.25	3.2	352.47	5.0
Technical Education	86.76	10.6	220.70	3.5	307.46	4.3
Total	819.78	100.0	6263.69	100.0	7083.47	100.0

Source: Analysis of Budgeted Expenditure on Education 1983-84 to 1985, Govt. of India, Ministry of Human Resource Development, 1986.

world enrolment, while it spent about one percent of the world expenditure on education. It is clear from the above picture that India is extremely backward in respect of development of education. Even among developing countries India is lagging behind in terms of per capita expenditure which is "five times higher in developing countries, and fifty five times higher in developed countries than in India".[5]

Broadly speaking educational expenditure in most of the developing countries is determined by two factors. Firstly, the overall levels of public expenditure and therefore the size of the cake from which the educational budget is sliced and secondly the priority that is accorded to education in the national budget.

Indeed governments in nations where the GNP is very modest may well allocate a higher proportion of the national budget to education than governments in countries in which the GNP is high. For example 29 percent of the GNP is allocated to education in Costa Rica and Lybian Arab Jamahuria and 27 percent in Tunisia and Congo. More frequently it is around 20 precent, as in Algeria, Colombia, Chile, Ghana, Japan, the Netherlands, Thailand and the United Republic of Tanzania. In another group of countries the education budget takes up between 10% to 20%-Argentina 11%, Austria 13.6%, Iceland 14.2%, Lebanon 13.2%, Monaco 17.5%, Morocco 18%, Philippines 10.1%, Saudi Arabia 10%, and Spain 16.2%. In relatively few countries does the education budget fall below 10% of the total national budget:- Kuwait 7.9%, the Socialist Republic of Vietnam 7.4%, Bangladesh 4%, Egypt 3.9%, and India 3.7%.[6]

"Developed countries spend 7 to 8 percent of GNP on education though their education is developed"[7]. Developing countries like India are not justified in spending less than the developed countries. Worse still, India even among developing countries is spending far

Table 4 : Budgeted Expenditure on Education by Different States 1984-85

(Rs. in Crores)

State	*Plan*	*Non-Plan*	*Total*	*Per capita Budget Bxp. (Rs)*	*% of budget exp.on Edn.to Ttotal Budget Exp.*
Delhi	33.78	87.45	121.23	194.9	35.5
Kerala	25.64	326.76	352.40	138.5	34.5
Bihar	68.30	423.77	492.07	70.4	28.9
Chandigarh	2.61	13.97	16.58	367.1	27.8
W. Bengal	86.43	437.27	523.70	95.9	26.1
Andhra Pradesh	121.09	451.34	572.43	196.9	25.9
Tamil Nadu	96.34	404.99	501.33	103.6	25.8
Manipur	3.94	25.50	29.44	207.2	25.7
Punjab	20.60	191.71	212.31	126.4	25.0
Assam	36.54	151.86	188.40	94.7	25.0
Rajasthan	50.86	258.45	304.31	88.8	23.9
H.Pradesh	9.72	60.46	70.18	163.9	22.8
Goa, Daman & Diu	6.08	17.71	23.79	218.9	22.5
Tripura	10.28	25.51	35.79	174.3	22.5
Pondicherry	3.76	8.68	12.44	205.8	22.4
Gujarat	40.16	303.13	343.29	100.7	22.2
Orissa	26.45	158.29	184.74	70.1	22.1
U.Pradesh	92.90	535.19	628.09	56.6	21.3
Haryana	33.13	111.16	144.29	111.6	21.1
Karnataka	44.13	318.61	362.74	97.7	20.9
Maharashtra	99.6	612.47	712.07	113.4	20.6

Source: Selected Educational Statistics 1984-85, Ministry of Human Resource Development, GOI, 1986, p.48.

less than 10%.

Though a developing country constantly labours under resources crunch, its position in the comity of nations can register a significant posture only when it ventures to allocate proportionately more funds to the development of human resources. India being a developing country has to give top priority to this aspect of higher allocation. According step motherly treatment to higher education is not in the interest of the general growth of the nation. The Ministry of Human Resource Development (HRD) in the Central Government should strive to get higher proportion in the allocation of funds to higher education. Compared to other departments, growth in higher education should be treated as a necessary pre-condition to the development of other aspects of life in human activities. It is generally seen that whenever a cut in governmental expenditure is contemplated, the first axe falls on the field of education. This is not a healthy trend.

Education in Andhra Pradesh

Andhra Pradesh has been spending a little more than approximately 20% of its budget on education. Its plan allocation on education increased from Rs. 9.2 lakhs in 1956 to Rs.100 crores in 1985.

The total resources devoted by different states of India for education are at varying levels. "For example on an average in 1980-81, the revenue budgets of the State Governments devoted 25.5% to education while certain states like Kerala devoted nearly 40%"[8]

The latest position regarding the budgeted expenditure on education by different states is indicated in Table 4 forthe year 1984-85. It may be noted from the Table that Andhra Pradesh ranked 6th among the States by allocating 25.9% of its Budget to education. It can also be made out from the Table that though Delhi and Kerala allocated 35.3% and 34.5% respectively for education, they were not proportionately higher compared to their size of population as is evident from the respective low per capita expenditures viz. Rs. 194.9 and Rs. 138.5 . Chandigarh had the highest per capita expenditure on education (Rs.367.1) with a reasonably higher budget allocation for education (27.8%). Big states like Maharashtra and Uttar Pradesh have contributed largest amounts of Rs. 712.07 and Rs. 628.09 crores for education respectively but their low per capita expenditure on education depicts a contradictory picture. This emphasizes the need for a move at the national level towards a rationally acceptable minimum per capita expenditure on education.

In the overall picture, Andhra Pradesh is moderate in respect of Plan and Non-Plan allocations, absolute as well as percentage terms and in respect of per capita expenditure on education.

It is clear from the above discussion that the priorities of the states and their fiscal capacities differ widely. Within the field of education also there are priorities which differ from state to state. It is proposed here to assess the role of Andhra Pradesh in financing higher education.

Higher Education in Andhra Pradesh

Higher Education received priority over other sub-sectors of education in Andhra Pradesh. Andhra Pradesh fared better in this respect even among some states. "In the case of higher education, state investments averaged around 13 percent of total expenditure on education in the year 1982. The highest (18.9%) was in Andhra Pradesh, closely followed by Tamil Nadu (17.7%), Manipur (17.5%) and Karnataka (17%). The lowest was in Sikkim (3.2%) "[9]. The percentage allocation for higher education under Plan and Non-Plan in the state of Andhra Pradesh given in Table 5 shows an increase from 14.1% in 1981-82 to 19.7% in 1985-86. Allocation on total education in the State recorded a growth to the extent of 194% over the base year 1981-82 taken as hundred. During the same period the expenditure on university and other higher education however registered a growth of 270% over that of the year 1981-82. This would indicate that the expenditure on higher education showed a greater increasing trend over the expenditure on total education. But interestingly, the share of expenditure of the Osmania University from the total expenditure on university and other higher education in the State, showed a decreasing trend from 16.8% in 1981-82 to 10% in 1985-86. This would tend to reflect the change in policy of the State Government in the importance given to higher education in the Osmania University. This would again depend mainly on the resource position of the State Government and the total amount allocated to higher education in the State.

Osmania University Vis-a-Vis Other Universities in The State

A look at Tables 6 and 7 reveals that Osmania University "the largest University in the state, with seven constituent colleges, 13 postgraduate centres and 177 affiliated colleges [10] has not received its due place in the matter of resource allocation. It may be observed that there was negligible or perhaps nil increase in the Plan grants received by Osmania University (except in 1982-83) over the five year period ending 1985-86 whereas there was substantial increase in the allocation to other three universities in the State. In 1985-86

Table 5 : Expenditure on Total Education, University and Other Higher Education and Osmania University Incurred by Govt. of Andhra Pradesh Under Plan and Non-Plan

(Rs. in Crores)

Year	*Total Education*	*University & Other Higher Education*	*%age of 3 to 2*	*Osmania University*	*%age of 5 to 3*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1981-82	272.50	38.47	14.1	6.48	16.8
	(100)	(100)		(100)	
1982-83	340.17	45.89	13.5	7.01	15.3
	(125)	(119)		(108)	
1983-84	402.20	53.90	13.4	7.87	14.6
	(148)	(140)		(122)	
1984-85	407.57	64.41	15.8	9.26	14.4
	(173)	(168)		(143)	
1985-86	528.37	104.03	19.7	10.42	10.0
	(194)	(270)		(161)	

Note : Figures in parentheses indicate growth index of expenditure on total education, University and Other Higher Education and Osmania University, under Plan & Non-Plan by Govt. of Andhra Pradesh.

Source : Series of Annual Budget Estimates of Government of Andhra Pradesh, Department of Education, Govt. of Andhra Pradesh.

Andhra University received three times, Sri Venkateswara University six times, and Kakatiya University one and a half times higher than what they received in 1981-82. The intention of the Government in such differential treatment may be attributed to the strategy consciously adopted by it in providing more funds for the development expenditure of smaller and newer universities. In 1985-86 the Government of Andhra Pradesh gave a uniform grant of Rs. 12.5 lakhs to all universities. Perhaps it was an attempt to equalize resource availability to all universities. But this equal treatment to unequal universities may aggravate the already existing inequalities in resource allocation.

Table 6 : Plan Expenditure on University and Other Higher Education in Andhra Pradesh with a Break-Up for four Major Universities in the State.

(Rs. in lakhs)

Year	*Osmania University*	*Andhra University*	*Sri Venkateswara University*	*Kakatiya University*	*Total Expenditure on Univ. & Other Higher Education*
1981-82	12.00	4.00	2.00	7.00	202.03
	(6)	(2)	(1)	(3)	(100)
1982-83	36.75	7.00	6.00	26.23	265.81
	(14)	(2.6)	(2)	(10)	(100)
1983-84	15.00	32.00	21.00	3.74	428.91
	(3)	(7.5)	(5)	(1)	(100)
1984-85	15.65	25.16	20.54	--	596.39
	(3)	(4)	(3)		(100)
1985-86	12.50	12.50	12.50	12.50	575.52
	(2)	(2)	(2)	(2)	(100)

In general, a decreasing trend is found in the case of all four major universities in the State in respect of Non-Plan allocations as shown in Table 7. This may be attributed to the increased number of institutions of higher education depending on government for financial assistance and the consequent thin spread of limited resources.

Table 7 : Non-Plan Expenditure by Andhra Pradesh Government on Four Major Universities in The State With Their Respective Percentage Share in the Total Expenditure on University and Other Higher Education.

(Rs. in lakhs)

Year	*Osmania University*	*Andhra University*	*Sri Venkateswara University*	*Kakatiya University*	*Total Exp. on University and Other Higher Education*
1981-82	636.17	380.69	193.27	91.84	3644.47
	(17)	(10)	(5)	(2.5)	(100)
1982-83	663.84	409.07	236.46	79.00	4322.96
	(15)	(9.5)	(5.5)	(2)	(100)
1983-84	772.31	523.59	255.48	102.94	4960.96
	(15)	(11)	(5)	(2)	(100)
1984-85	910.33	659.54	316.98	149.34	5844.33
	(15)	(11)	(5)	(2.6)	(100)
1985-86	1029.20	674.39	343.69	139.55	9837.11
	(10)	(7)	(3.5)	(1.4)	(100)

Note : Figures in parentheses indicate their percentages to total.

Source : Various issues of Budget Estimates of Government of Andhra Pradesh, Education Department, Ministry of Finance, Government of Andhra Pradesh.

Uncontrolled Growth of Universities and Colleges

Post-independence period is marked by remarkable growth in the number of universities and other institutions of higher education. In 1950-51 there were 27 Universities and 370 Colleges. At present (1988) "170 Universities, both statutory and deemed and 6000 colleges dot the country"[11]. This means that since then more than three universities and one hundred and forty eight colleges have been added on an average every year to the list of universities and colleges. Year-wise growth of universities and colleges from 1971-72 to 1985-86 is given in Table 8 which reflects a growth rate of 3.6 Universities and 120 colleges per annum on an average. But, however, in spite of the unprecedented growth, India has less number of universities as "compared to a small country like Japan where there are 389 Universities"(1977)[12].

The problem in India therefore is not large number of universities and colleges because it was found to be less than proportionate to the gigantic size of the country. The anomaly therefore has arisen due to unplanned expansion and the consequent lop-sided

Table 8 : Growth of Institutions of Higher Education - Enrolment in Higher Education

Year	*No. of Universities*		*Growth in Numbers*	
			No. of Colleges	*No. of Students*
1971-72	86+9	Instts. deemed to be Univ.	3,896	20,65,041
1972-73	90+9	Instts. deemed to be Univ.	4,158	21,68,107
1973-74	95+9	Instts. deemed to be Univ.	4,308	22,34,385
1974-75	102+9	Instts. deemed to be Univ.	4,170	23,66,541
1975-76	102+9	Instts. deemed to be Univ.	4,272	24,26,109
1976-77	105+10	Instts. deemed to be Univ.	4,317	24,31,563
1977-78	105+10	Instts. deemed to be Univ.	4,375	25,64,972

1979-80	105 + 11	Instts. deemed to be Univ.	4,558	26,48,579
1980-81	112 + 11	Instts. deemed to be Univ.	4,772	27,52,437
1981-82	118 + 13	Instts. deemed to be Univ.	4,886	29,52,066
1982-83	120 + 13	Instts. deemed to be Univ.	5,309	31,33,093
1983-84	124 + 15	Instts. deemed to be Univ.	5,246	33,22,939
1984-85	125 + 15	Instts. deemed to be Univ.	5,590	34,04,096
1985-86	132 + 17	Instts. deemed to be Univ.	5,723	35,70,897

Note: 1. The number of colleges given above excludes Junior Colleges and those offering Diploma/Certificate courses.

2. Enrolment for 1985-86 is in respect of 130 Universities and 17 Institutions Deemed to be Universities as two new Universities were set up only towards the end of 1985.

Source: UGC Annual Reports for the years 1981-82 to 1985-86.

development of the system of higher education in different states of the country. "While educationally advanced states establish too many educational institutions, educationally backward regions do not. For instance during 1978-79 to 1982-83 there was no increase in the number of colleges in the backward regions of Himachal Pradesh and Jammu & Kashmir. States like Assam, Haryana, Gujarat, Meghalaya, Nagaland etc., showed only marginal increase of less than 10 colleges. Compared to this, Andhra Pradesh, Bihar and Karnataka had an increase of 59, 50 and 50 colleges respectively. Even Kerala with its most advanced higher educational structure had an increase of 19 colleges during this period (1978-79 to 1982-83)"[13]

A highly undesirable consequence of such an ill-planned growth of institutions of higher education is contrasting levels of educational facilities, academic standards, and per capita educational expenditure in different states of the country. The resultant non-viability of a fair number of colleges is yet another drag on the system of higher education in India. Dr. Ambedkar, while speaking to the Constituent Assembly in 1950 on the shape of educational reforms, rightly pointed that "It is absolutely necessary both in the interests of the centre as well as the provinces that the standards ought to be maintained on an all India basis."[14] That such disparities existed even two decades ago is clearly evident from Kothari Commission Report (1964-66) which prescribed a panacea that the Central Government should take the responsibility to secure equalization of development in every state in order to reduce regional imbalances. This suggestion however, did not find favour with the Central Government even after twenty three years now (1989).

Growth and Its Implications in Andhra Pradesh

There were only three universities and 47 colleges in 1956 in the State of Andhra Pradesh. There has been an addition of 15 colleges on an average every year and one university once in every three years since then. Andhra Pradesh had 12 Universities and 493 Colleges (1985-86). Table 9 gives a glimpse of the growth in the number of colleges.

Table 9 : Growth of Colleges in Andhra Pradesh

Year	*No. of Colleges*	*Increase*
1981-82	399	-
1982-83	410	11
1983-84	420	10
1984-85	470	50
1985-86	493	23

Source : UGC Annual Report - 1985-86

During the above period the growth rate in Andhra Pradesh was 19 colleges per annum on an average. The total number of colleges increased by 837 in the country during the period under reference. Andhra Pradesh alone accounted for 11.3% increase. Though it is highly desirable to have an advancement in the educational front, if adequate and equitable resources cannot be made available to all the institutions both new and old, it would result in reduced share to the already existing institutions of higher education and consequent low per student resource availability. Per student Non-Plan expenditure of Andhra Pradesh ill compares with that of all India as may be seen from Tables 10 & 11.

Low Per Capita Non-Plan Expenditure

It may be seen from Table 10 that during the period from 1970-71 to 1979-80 per student Non-Plan expenditure at current prices (1979) in Andhra Pradesh was far below that of All India. While the per student Non-Plan expenditure ranged from Rs. 287 (1970- 71) to Rs. 692 (1979-80) the figures for All India were much higher being Rs. 351 in 1970-71 to Rs. 987 in 1979-80. This would indicate that adequate finances in this regard were not made available to Andhra Pradesh. There is however no indication from the expenditure Tables of these years (1970-71 to 1979-80) that amounts were left unspent though adequate finances were made available by the Government. There is therefore much to be desired in the context of provision of funds to enable Andhra Pradesh Universities to reach the all India figures. This is a case of clear pointer to inadequate funding of universities in the State of Andhra Pradesh by Government.

Table 10 : Per Student Non-Plan Expenditure on University & Other Higher Education in Andhra Pradesh Vis-A-Vis all India

Year	*All India*			*Andhra Pradesh*		
	Non-Plan Exp. on University and other higher education at current prices (Rs. in lakhs)	*Enrolment In thousands*	*Per-student non-Plan Expenditure (In Rs.)*	*Non-Plan Exp. on Univ. & other Higher Edn.at current prices (Rs. in lakhs)*	*Enrolment (In thousands)*	*Per-student Non-Plan Expenditure (In Rs.)*
1970-71	1,12,00	31,92	351	9,02,54	3,14	287
1971-72	1,20,67	35,95	336	9,88,31	3,43	288
1972-73	1,41,73	38,70	366	10,87,76	3,72	292
1973-74	1,58,48	40,76	389	14,88,11	4,05	367
1974-75	2,31,29	42,12	549	19,26,60	4,26	452
1975-76	2,57,98	42,79	603	21,88,95	4,19	522
1976-77	2,91,53	43,50	570	26,73,60	3,81	702
1977-78	3,73,90	43,61	857	29,55,02	4,17	709
1978-79	3,91,14	45,87	853	33,94,66	5,07	670
1979-80	4,70,21	47,65	987	42,05,16	6,08	692

Notes: 1. Non-Plan expenditure on University and Other Higher Education includes Technical Education and excludes Medical, Agricultural and Veterinary Education and it is the expenditure incurred by Education Departments.

2. Enrolment includes Pre-University students.

Sources: 1. Analysis of Budgeted Expenditure on Education in India, Ministry of Human Resource Development, Government of India.

2. Education in India (Various issues), Ministry of Human Resource Development, Government of India.

But a reference to Table 11 of per student Non-Plan expenditure at constant prices (1970-71) on University and Other Higher Education would indicate that Andhra Pradesh figures of expenditure per student during the period between 1970-71 to 1979-80 were not very much behind the all India figures of corresponding years. The Table shows that the per student non- plan expenditure at constant prices (1970-71) was Rs. 287 in respect of Andhra Pradesh Universities in 1970-71 against all India figures of Rs. 351, and Rs. 435 against Rs. 498 during 1977-78. However, there is great need for bridging this gap to make the expenditure in Andhra Pradesh on higher education rise to the figures of all India level. This can only be achieved by liberal funding by the Government and philanthropic institutions in as much as the Universities in Andhra Pradesh and other Universities in general are hardly in a position to increase the rates of tuition fees for obvious reasons. This inability to increase the internal sources of university applies equally well to other universities in the country.

Table 11 : Per Student Non-Plan Expenditure on University and Other Higher Education by Education Departments at Constant Prices in Andhra Pradesh and All India

Year	*Andhra Pradesh (Rs.)*	*All India (Rs.)*
1970-71	287	351
1971-72	272	320
1972-73	237	310
1973-74	268	278
1974-75	281	337
1975-76	370	389
1976-77	444	404
1977-78	435	498
1978-79	409	487
1979-80	370	491

Note: Constant prices were computed by using State and National Income deflators.

Formula: Constant Prices = Current Price/income deflator x 100

Table 12 : Net Domestic Product at Current and Constant Prices in Andhra Pradesh and All India

(Rs. in crores)

Year	*All India*			*Andhra Pradesh*		
	Net domestic product (NDP)		*NDP deflators*	*Net State Domestic Product*		
	At current prices	*At constant prices*		*At current prices*	*At constant prices*	*State income deflators*
1970-71	34235	34235	(1.00)	25228	25228	(1.00)
1971-72	36582	34718	(1.05)	27580	26002	(1.06)
1972-73	40317	34215	(1.18)	29479	23964	(1.23)
1973-74	50468	36033	(1.40)	39260	28596	(1.37)
1974-75	59505	36590	(1.63)	47222	29347	(1.61)
1975-76	62302	40274	(1.55)	42180	29830	(1.41)
1976-77	66924	40429	(1.66)	42756	27139	(1.58)
1977-78	75706	44046	(1.72)	49940	30668	(1.63)
1978-79	81321	46533	(1.75)	55111	33527	(1.64)
1979-80	88813	44136	(2.01)	61276	32798	(1.87)

Source: Estimates of State Domestic Product various series from 1970-71 to 1984-85, Central Statistical Organisation, Ministry of Planning, Government of India, 1986.

Low Net State Domestic Product

A perusal of the position of net state domestic product of Andhra Pradesh both at current and constant prices (1970-71) during the period of 1970-71 to 1979-80 as per Table 12 is not reassuring on a comparison with the relevant figures for the entire country. The State income deflators, have risen from 1.00 (1970-71) to 1.87 (1979-80) against the all India figures of 1.00 (1970-71)and 2.01 (1979-80). This would indicate that the comparison of income deflators of all India and Andhra Pradesh is not encouraging in respect of Andhra Pradesh during the relevant period. Unless the State of Andhra Pradesh increases its sources of revenue with a corresponding increase in the income deflators the state cannot afford to provide adequate finances to the universities and the institutions of higher education in the State.

References

(1) Azad, J.L., Higher education in India : The deepening financial crisis, Radiant Publishers, New Delhi 1988, p.13

(2) Azad J.L. op cit

(3) Ansari M.M. Financial health of universities: A diagnostic study, University News, March 13, 1989, p.4

(4) Ramachandran, K.R. Overcrowding in higher education, Chapter 11, p.9, in "Spectrum of higher education" A series of essays on higher education, 1986.

(5) Azad J.L. op.cit - p.15.

(6) International year book of education, 1980, Chapter III, Finance, p. 39-40.

(7) Lewin, Keith, Educational finance in recession, **Prospects**, Quarterly Review of Education, UNESCO, Vol. XVI, No.2, 1986.

(8) Padmanabhan C.B. Is financing Indian higher education equitable?, University News, Feb 23, 1988, p.25.

(9) Azad J.L. op cit.

(10) The Hindu, 15-8-1988, p.18.

(11) Ghanchi, D.A., New education policy - Strategic initiatives in higher education. University News, August 22, 1988, p.1.

(12) Kapur, J.N., Current issues in world higher education, 1977, p.46.

(13) Ramachandran K.R. op.cit, p.62.

(14) As quoted by K. R. Ramachandran in his essay on "Overcrowding in higher education", in Spectrum of higher education, 1986.

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Evaluation of Refresher Courses
A Case Study

I. Ramabrahmam*

It is now nearly three years when 48 Academic Staff Colleges were established in different parts of the country with a view to upgrading the competence of university and college teachers as a measure of improving the quality of higher education. It climaxed the efforts of the University Grants Commission(UGC) initiated in the late 60's to arrest the falling standards of higher education caused by the proliferation of colleges and universities in the country. The system of granting fellowships to teachers under what is known as Faculty Improvement Programmes, the organisation of Summer Schools and University Leadership Programmes sponsored by the UGC have only had a limited impact on the standards of higher education in the country because of their being availed of only by a limited number of teachers. The recognition of the importance of in- service training which led to the formulation and implementation of these schemes is sought to be placed on a sound and sure footing through the establishment of the Academic Staff Colleges wholly financed by the UGC and directed towards the orientation of newly appointed college/university lecturers from the academic session 1987-88.

The new programme comprising orientation and refresher courses aims at promoting the teacher's awareness of his responsibilities and status in the educational system of the country as also exposing the teachers to the advances in their respective disciplines, besides acquainting them with the new methodologies and techniques of teaching which should help fulfil his role as the pivot of the whole process of education. It is intended to motivate the teachers through specially designed orientation programmes in educational technology and psychology and through the organisation of refresher courses to cover every teacher atleast once in five years and encourage them to participate in seminars and symposia etc.

Although the exact figures are not available, the Academic Staff Colleges throughout the country, have during the past three years been able to cover about 20,000 teachers as against 2,50,000 teachers in the country which however, is not very encouraging. Moreover, as with the revision of scales of pay of teachers, the career advancement of the university/college teachers is made contingent upon their attending atleast two of these programmes, there prevails a mood of despair among large sections of teachers, which if allowed to continue would jeopardise the implementation of this programme. There is therefore, an urgent need for evolving new arrangements by which larger numbers of teachers would be afforded an opportunity to undergo training.

Further, it is also necessary to evaluate the administration of orientation and refresher courses by every Academic Staff College so as to fulfil the objectives for which they are introduced. It may be pointed out that the proforma evolved by National Institute of Educational Planning and Administration (NIEPA) and circulated by the UGC for undertaking the evaluation of the orientation and refresher courses by the participants covers only some aspects of a course. It is felt that the schedule is inadequate for assessing the effectiveness of the courses. The following is an abridged statement on the evaluation of the first refresher course in Political Science organised by the Academic Staff College of the University of Hyderabad from 17th September to 13th October, 1990 which does not provide any feedback on such aspects as the trainees responses to the specific contents of the courses for modifying them.

There is also an innate unwillingness on the part of the participants in general to respond frankly to the questions featured in the evaluation sheet. It is indeed ironical that though the participants expressed their views freely and frankly in the feedback session organised for them, it appears that they were reluctant to commit themselves to writing.

The respondents numbering 40 teachers drawn from Andhra Pradesh, Tamil Nadu, Kerala, Karnataka, Pondicherry, West Bengal, Uttar Pradesh, and Maharashtra of whom 18 were holders of Ph.D degree, 5 of the M.Phil degree and the remaining 17 of the M.A. degree.

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EVALUATION OF THE FIRST REFRESHER COURSE IN POLITICAL SCIENCE

Teachers' Response

LEVEL		
1. Adequate	28	70%
2. Less adequate	10	25%
3. Not at all adequate	-	-
4. No response	2	5%

QUALITY		
1. Upto date	24	60%
2. Not so uptodate	14	35%
3. Obsolete	-	-
4. No response	2	5%

RELEVANCE		
1. Relevant	23	57.5%
2. Not so relevant	16	40%
3. Not at all relevant	-	-
4. No response	1	2.5%

COMMUNICATION		
1. Very effective	24	60%
2. Not so effective	15	37.5%
3. Not at all effective	--	-----
4. No response	1	2.5%

READING MATERIAL		
1. Sufficient	4	10%
2. Not so sufficient	33	82.5%
3. Not at all sufficient	2	5%
4. No response	1	2.5%

OVERALL ASSESSMENT

EXTENT OF PARTICIPATION		
1. Everybody participated enthusiastically	16	40%
2. Participation was satisfactory	23	57.5%
3. Participation was not satisfactory	1	2.5%

RESOURCE PERSONS		
1. Very competent	13	32.5%
2. Competent	27	67.5%
3. Not so competent	-	-

DURATION		
1. Too long	9	22.5%
2. Just all right	31	77.5%
3. Too short	-	-

LIBRARY SERVICES		
1. Good	5	12.5%
2. Satisfactory	25	62.5%
3. Not so satisfactory	10	25%

HOSTEL SERVICES		
1. Good	18	45%
2. Satisfactory	15	37.5%
3. Not so satisfactory	1	2.5%

BROADENING OF THE APPROACH		
1. To a great extent	14	35%
2. To some extent	25	62.5%
3. Not at all	-	-
4. No response	1	2.5%

INSPIRING		
1. To a great extent	15	37.5%
2. To some extent	25	62.5%
3. Not at all	-	-

SKILL TO IMPLEMENT (Teaching & Research)		
1. Adequate	14	35%
2. Not so adequate	26	65%
3. Not at all adequate	-	-

POSSIBILITY OF IMPLEMENTATION		
1. To a great extent	5	12.5%
2. To some extent	34	85%
3. Not at all	1	2.5%

It may thus be seen that the evaluation of the courses as could be undertaken using the proforma supplied by UGC reveals only the reactions and not the causes underlying them to judge of the effectiveness of the course concerned.

Again the refresher courses are to be related to the work of the Curriculum Development Centres established by the UGC in different universities. There appears to be a hiatus between what is thought to be necessary for strengthening a given curriculum and what the teachers think to be necessary at their level. Indeed the implementation of the Common Core Syllabus Scheme in Andhra Pradesh has not secured the whole hearted co- operation of the teachers concerned as they tend to view the additions to their syllabi as being unwarranted which is truly unfortunate. A possible way out is, to relate the contents of the refresher course to those of the syllabi enforced in different universities and supply the requisite reading materials. This calls for a new approach to the implementation of these programmes.

Language as a Vehicle of Knowledge

"If we want Indian languages to be the medium of instruction at all levels, we shall have to begin with teachers and not with students. I want to emphasise that what we are talking about is not language *per se*, but language as a vehicle of knowledge and I am stressing the importance of English because it is already recognised throughout the world as the richest vehicle of the latest that is being done in any field of scholarship", said Dr. Sarup Singh, Governor of Gujarat while delivering the Convocation Address at the third annual convocation of the Goa University. He however added, "I would be delighted if Indian languages can become effective means of conveying this scholarship to our students. This task can be performed in our educational system by teachers who are bilingual and who first imbibe the latest from books and journals in English and then transfer it through their own language to their students. Similarly, the knowledge contained in English books can also be transferred to books in our own languages so that there is enough reading material for students at all levels in our own languages. This process should lead us to start writing original books in our own languages and, as it always happens amongst developed languages, knowledge could start getting shared between us and writers in English". Excerpts

Students, it has been claimed, have three attitudes towards their old teachers : some they just forget, some they hate, and the better ones they forgive. I cannot ask you what attitude to adopt but I would like to plead that in every institution there are also some teachers, however small their number, who also deserve to be loved. May I say that for the sake of these few, remember your College and your University with affection and respect?

CONVOCATION

I have deliberately mentioned affection and respect for the University because these days Universities are not given the respect by people in power which is their due. This leads to demoralisation which is bad for any educational system. The situation was not so unsatisfactory in earlier years after independence. Indeed, Pandit Nehru had great faith in Universities. In early fifties, he declared : "A University stands for humanism, for tolerance, for reason, for progress, for the adventure of ideas and for the search of truth. It stands for the onward march of the human race towards ever higher objectives. If the Universities discharge their duties adequately, then it is well with the nation and the people."

Pandit Nehru made this statement long ago while addressing the University of Allahabad, but since then, times have greatly changed and though, technically speaking, Universities could still claim to stand for all the values that he mentioned, and some of them probably do, yet it is also a fact that many of them have become victims of bigotry and petty objectives. It is worthwhile considering where we have gone wrong and whether is anything that we still can do to retrieve the situation.

One thing seems clear to me and that is that the new breed of politicians in our country has no respect for Universities. Most of them clearly distrust academic freedom and they have absolutely no notion of University autonomy. Pandit Nehru's thinking was entirely different. He was conscious that if the Universities were "to keep their lights burning" in the midst of gloom, they would need the protection of the State. Indeed, his view was that in developing societies, the state itself has to act as the guardian of autonomy and freedom in the Universities so that they can function as the home of culture and of learning without being hindered in their task by the narrow caste and communal loyalties which often determine the attitude of local politicians.

For all I know, your State may be somewhat different from other States but my experience has been quite dismal. The view in most States seems to be that since the finances come from the Government, the Government has every right to dictate. And this dictation takes various forms. It is not merely the appointment of the Vice-Chancellor which the State politicians have more or less taken over from the Governors of States who as Chancellors of Universities were entrusted with this task. They interfere even with admissions, appointments and promotions. There is also a demand in some places that they should have a hand in deciding what teachers should be asked to teach and what they should be prevented from teaching. Some States do it openly; others do it through pressure on the Chancellor, the Vice-Chancellor and the members of Senates and Syndicates. Indeed, in some States it is being done in the name of democracy. The University Syndicate and Senate are so constituted that the lay element, i.e., the non-academic element, outnumbers the academic element. The lay element is democratically elected and it comes from various sections of the population including trade unions and Panchayats. They have their own political affiliations and they soon come to dominate the Universities as they have their patrons in seats of power and members of their parties among teachers, students and non-academic staff. In such situations the Vice-Chancellor feels helpless and the University becomes a scene of constant politicking.

Whenever political interference is resisted, it is claimed that Universities are becoming an ivory tower and that they must recognise the social realities and learn to act accordingly. Whenever some academics raise their voice in defence of higher academic standards, they immediately come under attack and are accused of elitism. I hope you will forgive me if I quote a few lines from a lecture that I delivered in Delhi University some time ago. Then the context was that the Government must not encourage the appointment of inferior persons to higher academic positions on account of political expediency as such appointments can do great damage to our educational system. I quote:

"We need to remember that where a University is saddled with an inferior Vice-Chancellor, it would cease to function as a centre of learning and it could hardly be expected to encourage quality teaching or research. However, hateful the word may sound, all higher education is elitist in character as it is in essence a pursuit of excellence. Those who attack elitism need to make a distinction between intellectual excellence and social snobbery. We should in any case beware of the dangers of mediocrity in higher education. Where a University does not keep higher standards of scholarship in mind, it fails in its duty. Where a nation's Universities do not produce outstanding men and women in various disciplines, the nation will deteriorate. When badly educated men and women with a low culture and a narrow outlook become the guardians and rulers of the nation, then that nation is in real peril."

I humbly ask whether it is possible for us to protect Universities as centres of excellence. It should be clear to all of us that wherever a University fails to maintain high academic standards, it has failed in its duty as an educational institution. I am delighted to read in the note on University that I received from your office, Mr. Vice-Chancellor, that your University "was conceived with the intention of enriching the standard of education in this region" and that you "did not compromise on standards" whether in the case of admission of students or the recruitment of teachers. I wish you all success in your endeavours. Yours is a new University and it is possible that vested interests have not yet entrenched themselves. In any case, everything is safe as long as a University recognises that it exists for the pursuit of excellence and that everything else is secondary.

I cannot claim that I am wholly familiar with the actual situation in your University, but I will like to make a few general remarks on the basis of my experience in other places which may be of some relevance.

My experience as a lecturer in a College and later as a Professor in the University makes me feel that under-graduate education and post-graduate education need to be differently organised. In most States a situation has been reached where owing to democratic pressure it is under-graduate teachers who determine the curriculum for post-graduate classes. I mean no disrespect to under-graduate teachers, but I regard such a situation as unsatisfactory. The way things have happened not only in India but throughout the world, post-graduate teaching and research have become centralized and they are essentially the responsibility of University Departments. Under-graduate teaching on the other hand is the responsibility of Colleges. College teachers can, of course, be involved in post-graduate teaching and indeed should be so involved and they can also be appointed as research guides, depending on their competence, but they cannot be given the power to control the development of the Department. That has to be left to a competent body composed of senior Professors.

In India, some Colleges have made outstanding contribution to education at various levels including post-graduate teaching and research. But their number is not too large. Moreover, as things are, Colleges do not have sufficient expertise to handle all the branches of knowledge in any field. Such expertise may not often exist even in Departments but a Department can always draw on talent wherever it is available.

This separation between under-graduate education and post-graduate education has become inevitable owing to another development that is taking place in every State. In most States, the regional language has become the medium of instruction at the under-graduate level. There has been pressure that the regional language should be accepted as the sole language at the post- graduate stage also, but most post-graduate departments find it difficult to do so as the regional language does not possess enough reading material to sustain high quality teaching at the post-graduate level. This creates a situation of great difficulty. Whether we like it or not, Universities cannot do without English but what can Universities do when a State Government takes a decision that English need not form a part of the curriculum at the secondary or the under-graduate stage? Or that passing in English in any of the classes is not compulsory? Some years ago there was lot of talk about English being made a library language. But how does a language become a library language unless it is learnt in some depth? The framers of the report in which this idea was mooted must have known in their hearts that they were not being realistic. In any case, the idea never caught up. Indeed, our progress in cultivating English as a library language has been so notable that in most Colleges, libraries seem to have become redundant. Students pass their examinations merrily through bazaar notes and Colleges feel relieved that the funds ear-marked for library books can be spent in other more interesting areas.

I am not as familiar with your under-graduate courses as I should like to be but I wonder whether I could venture to make a few general remarks about B. A. pass course in most Universities. In Delhi University we came to recognise long ago — as early as the thirties, when Sir Maurice Gwyer was our Vice-Chancellor – that a pass course which does not encourage the study in depth of any subject but offers only a general kind of course in three or four subjects is not of much use and that like Oxford and Cambridge we too should have only Hons. Courses in the various subjects of study. Sir Maurice's hope was that Delhi University would be developed on the lines of Oxford and Cambridge and that Colleges would have only Hons. students and that the usual pass course which most Universities in India have, would be abolished. One or two Colleges did try to do it but pass course could not be dropped owing to many reasons, one being the pressure of numbers. Realizing that we had to keep it in any case, we decided to use it almost as a shield against the attack of Hindi enthusiasts who wanted Hindi to be accepted as the medium of education at all levels. We straight away accepted Hindi as the medium of instruction for B.A. pass course but offered resistance at the Hons. level. I am glad to say that we largely succeeded. In theory Hindi is available as a medium of instruction at Delhi even at the Hons. stage too but our experience has been that not many students offer it. The reason is not Delhi University's anti-Hindi bias – indeed there is no bias as such nor can the University, politically speaking, afford to have such a bias, it being the home of Hindi enthusiasts but because a student offering Hons. course cannot cope with the course without the help of books in English. The fact is that even while we all grow eloquent about Indian languages, we do nothing to develop them. How is it, for instance, that even in a subject like History, Indian History, scholarly books written by Indians are to be found only in English ? The Council of Historical Research, New Delhi, did arrange for translation of some of these books in Indian languages, but why can't genuinely good books be initially written in Indian languages ? If our languages are not well developed, they need to be developed and development is possible only if books – scholarly and thought- provoking books – are written in them. It has started happening, I am told, only in Bengali and perhaps in one or two South Indian languages,but eminent scholars in Hindi-speaking States and there are such scholars, a number of them-prefer to write in English rather than Hindi. Our tragedy is that our politicians do not realize that this being the reality on the ground, it is foolish to talk of throwing out English. And, it is particularly harmful to our Universities. Someone recently said that English cannot be thrown out as both our history and geography are against it. I do not want to be dogmatic but I do want to plead that in educational matters, things move slowly and it is safer to permit them to move at their own pace.

If I were to say that I prefer a system where every student studies English as a compulsory subject from class VI to class XII and then goes on to do his Hons. in any one of the subjects before he goes to M. A. (which the majority in any case must not be encouraged to do, it being a highly specialized course and hence meant only for a chosen few), I would be described as too old-fashioned, as a believer in the status quo and as an enemy of progress and, much more, as an enemy of Indian languages.. So I make another suggestion. If we want Indian languages to be the medium of instruction at all levels, we shall have to begin with teachers and not with students. I want to emphasise that what we are talking about is not language *per se*, but language as a vehicle of knowledge and I am stressing the importance of English because it is already recognised throughout the world as the richest vehicle of the latest that is being done in any field of scholarship. I would be delighted if Indian languages can become effective means of conveying this scholarship to our students. This task can be performed in our educational system by teachers who are bilingual and who first imbibe the latest from books and journals in English and then transfer it through their own language to their students. Similarly, the knowledge contained in English books can also be transferred to books in our own languages so that there is enough reading material for students at all levels in our own languages. This process should lead us to start writing original books in our own languages and, as it always happens amongst developed languages, knowledge could start getting shared between us and writers in English. Hopefully, a day can come when foreigners would have to learn our languages to know the latest that is being thought and written about in any field of scholarship and scholarly work in Indian languages would have become available to scholars in other parts of the world as their work is available to us.

To achieve such excellence in our own languages, we will have to put in hard and sustained work. It is good to see that one of the objectives of your University is to enrich regional languages. But this enriching can be done only by highly competent and committed scholars who, as I said earlier, are bilingual. We have very few such scholars and they do not always get the encouragement they deserve. English certainly does some damage here. Since it is the language of our social elite, it is also an excellent instrument for self-advertisement and self- advancement. People with superficial knowledge of an Indian language rush into positions of real importance merely on the strength of their verbal felicity in English. This does no good to the Indian language. We need scholars who have a profound knowledge of their own language, this being our primary demand. In addition, they should also have a reasonable command over English language and familiarity with the latest research methodology. Such men are rare. But even when we come across such a man, he is often pushed out by self-promoters with the help of local pressures. Unfortunately, there is no international jury available in the case of Indian languages as there is in the case of English. Hence the need for greater care as all kinds of local prejudices come into play when a Professor has to be appointed in an Indian language.

I may say in conclusion that the teaching community often does not realize the importance of its own role in University life. It needs to be emphasised that a University is only as good as its teachers. They can lend it that lustre which makes it a centre of excellence but they can also damage it. It has been seen in some older Universities that certain Departments never grow because their Heads distrust talented people and prevent their entry into the Department suspecting that they will outshine them. Such Departments get crowded with mediocre people and soon wither away. It has rightly been said that a good administrator is one who recruits persons superior to him and earns their respect and confidence. This in a sense sums up the role of a Vice-Chancellor too. You are a new University and you are excellently located. So you are in a position to attract the best talent that is available in the country. Go wherever you need to go in India or even abroad and search for the best people available. Neither their religion nor their caste nor their sex, nor their State nor indeed even their nationality is relevant. Only their contribution to knowledge in their field of study is relevant. Put about half a dozen persons of this calibre in some key positions and see how the University grows in stature and how scholars from far and near feel attracted towards you. It is, of course, important that the University provides these people reasonable academic facilities. Once you have done it, you leave them alone and see how knowledge flourishes here.

Communication:

Correction

Sir, I thank you for having published my paper on "Aesthetic Education and Rabindranath Tagore" in the Special Issue of *University News* dated January 14, 1991 published on the occasion of the Conference of Executive Heads of Commonwealth Universities. I however note that some discrepancies had crept in the text sent to you. I should like that these are brought to the notice of your readers.

On page 76, in para 2, line 12, the quotation "Beauty is truth, truth is beauty", should read as "Beauty is truth, truth beauty". In line 15-16 "visual art of dramatic performance" should be read as "visual art or dramatic performance". Again in lines 21-22 of the same para "Rabindranath utters these remarkable words" should be read as "Rabindranath expresses the remarkable idea that" and the following sentence is not a quotation.

Yours etc.
Arati Sen
Director of Studies
Vinaya Bhavana
Visva-Bharati
Santiniketan - 731 235.

Centre for Environmental Planning and Technology

The Centre for Environmental Planning and Technology (CEPT) Ahmedabad is sponsored by the Ahmedabad Education Society which was established in 1935 as a voluntary organisation devoted to the cause of education. The aim of the CEPT is to provide an integrated approach to education, research and training in Architecture, Planning, Construction, Technology and allied fields including continuing education in these disciplines. At present CEPT offers the following programmes :

(i) Diploma in Architecture

A full time course of ten semester programme spread over five years as equivalent to Bachelor's degree in Architecture is offered at the School of Architecture. This course is one of the two in India recognised by the Commonwealth Association of Architects. The graduates of this course are exempted from part I and part II examinations of the Royal Institute of British Architects, U.K.

(ii) Post-Graduate Diploma in Urban and Regional Planning, and Environmental Planning

Full time three semesters postgraduate Diploma programme spread over one and half years and equivalent to Master's degree in Urban and Regional Planning and Environmental Planning are offered at the School of Planning. The courses are recognised by the Institute of Town Planners, India and the Ministry of Human Resource Development, Government of India.

(iii) Diploma in Building Construction

A full time six semester Diploma programme spread over three years is offered at the School of Building Science and Technology. The Diploma has been recognised by the All India Council of Technical Education, Ministry of Human Resource Development, Government of India.

Division of Continuing and Extension Education

With the establishment of this Division in 1984, an attempt has been made to offer extension courses at CEPT campus in areas not being covered by the CEPT Schools. The Division has conducted a number of short term courses during the past six years and is also conducting a few Winter Schools in the areas of technology.

The Centre is also running Postgraduate Programmes in : a) Housing at School of Planning, b) Urban Design at School of Architecture. Also the following proposals to start new programmes have been submitted to the relevant authorities:

(a) Undergraduate programme in Interior Design; (b) Postgraduate programme in Design and Construction Management; and (c) Postgraduate programme in Landscape Architecture.

With a view to encourage research among the faculty at the Centre, several Units and Centres have been setup. These are (i) Architectural Conservation Unit, (ii) Unit for Housing Studies, (iii) Centre for Urban Studies, (iv) Centre for Engineering Performance Information, (v) Environment and Ecology Study Units, and (vi) Unit for Energy Studies.

Campus News

Dr. Manmohan Singh Takes Over

Dr. Manmohan Singh (59) took over as Chairman of the University Grants Commission (UGC) on March 15, 1991. As Chairman, UGC he will have a status of Cabinet Minister personal to him.

Earlier Prof. Yash Pal demitted the office of the UGC Chairman on March 6, 1991 after completing his five-year tenure.

Prior to becoming UGC Chief, Dr. Manmohan Singh was working as Economic Adviser to the Prime Minister of India since November, 1990. An eminent economist, Dr. Singh has held several important positions in India and abroad including Deputy Chairman, Planning Commission (1985-87), Governor, Reserve Bank of India (1982-85) Member Secretary, Planning Commission (1980-82), Secretary, Economic Affairs, Ministry of Finance (1976-80), Chief Economic Adviser, Ministry of Finance (1972-76), Economic Adviser, Ministry of Foreign Trade (1971-72), Chief of Financing of Trade, UNCTAD (1966-67) and Secretary General, South-South Commission, Geneva (1987-90). He was also a Professor of Economics, Panjab University (1957-65) and at Delhi School of Economics, University of Delhi (1969-71).

He is an honorary Professor at the Jawaharlal Nehru University, New Delhi and St. John's College

Cambridge, London. He is recipient of honorary academic degrees from University of Delhi, Sri Venkateswara University, Tirupati and Panjab University, Chandigarh, etc.

Developmental Strategies in India

"A third world country like India cannot afford to have borrowed developmental strategies based on the western and socialist experience and as long as this dichotomy persists, there will not be any socio-economic development in the country," said Prof. K. N. Kabra of the Indian Institute of Public Administration (IIPA), New Delhi. He was delivering the inaugural address at the two-day National Seminar on 'Developmental Strategies in India - Retrospect & Prospect' jointly organised by the Warangal branch of the Indian Institute of Public Administration and the department of Political Science and Public Administration at Kakatiya University recently.

Prof. Kabra called upon the social scientists, policy-makers, administrators and others to develop deep insights into the indigenous problems and help evolve appropriate strategies. A judicious application of the developmental strategies relevant to country's needs alone would ensure the desired development, he felt.

In his presidential address Prof. D. Ravindra Prasad, Director of Regional Centre for Urban & Environmental Studies, Hyderabad stressed the need for integrated strategies for a balanced growth and development of the rural and urban sectors in the country.

Prof. V. Bhasker Rao, Director of the Seminar and Chairman of the IIPA, Local branch and also Principal of the University campus college, explained the aims and objectives of the seminar while Dr. Ch, Bala Ramulu, Secretary of the IIPA branch and Reader in Public Administration, presented the theme paper .

Earlier Dr. Amruth Rao, Head, Deptt. of Political Science and Public Administration of the University welcomed the gathering.

In all 45 social scientists, research scholars, government officials, and social workers from all over the country participated in the Seminar at which 32 papers on different aspects of the theme of the seminar were presented.

HP Varsity (Amendment) Bill

Himachal Pradesh Government is reported to have recently introduced the Himachal Pradesh University (Amendment) Bill in Vidhan Sabha to make some major changes in the existing status of the Act and also to reduce the term of the Vice-Chancellor from five years to three years.

Introducing the Bill, the Education Minister, Mr Radha Raman Shastri, said in the statement of objectives that the Government considered it necessary to appoint a registrar on deputation from the State IAS cadre or from among educationists so that the university could function in a disciplined manner.

He said that keeping in view the importance of examination work, the Government had proposed to create the office of the controller of examinations equivalent in pay and status to the registrar and to fill up the office by transferring the incumbent registrar. The controller of examinations would henceforth also be one of the officers of the university.

The Bill reduces the term of the Vice-Chancellor from five years to three years to infuse life into the University, he added.

ICMR Awards for 1990

The Indian Council of Medical Research recently announced awards for 25 scientists for the year 1990. The recipients are listed as under: Prof. P.N. Tandon, noted neuro-surgeon and Emeritus Professor at the All India Institute of Medical Sciences has been selected for Basanti Devi Amir Chand prize for his outstanding work in the field of neurosciences while Dr. Chandreshwar Prasad Thakur of Patna Medical College gets the Dr. P.N. Raju Oration Award for his work on the treatment of Kala Azar.

Ms Kasturi Jayant of Cancer Research Institute of Tata Memorial Centre, Bombay, has been chosen for the Sandoz Oration Award for her work on epidemiological studies with implications for cancer control.

Dr Y.S. Narayana Rao Oration Award has been granted to Dr V. K. Vinayak of PGIMER, Chandigarh, for his work on immunioregulation in giardiasis.

Dr Kamala Menon Medical Research Award for internal medicine has been given to Dr S.N.Khosla of Rohtak Medical College while the Kshanika Oration Award has been granted to Dr (Mrs) I. Manorama Thomas of St. John's Medical College, Bangalore, for her work on human genetics.

The Jalma Trust Fund Oration Award for leprosy research has been given to Dr P. R. Mahadevan of the Foundation for Medical Research, Bombay. Dr. M. O. T. T. Iyenger Memorial Award has been given to Dr (Mrs) Sarala A. K. Subbarao of Malaria Research Centre, Delhi. The Amrutmody Unichem Prize for research in cardioloyg/neurology has been given to Dr I. S. Anand of PGIMER, Chandigarh, for the work done in the field of high altitude medicine and physiology.

The BGRC Silver Jubilee Oration Award for haematology and immunohaematology has been given to Dr S.H. Advani of Tata Memorial Hospital, Bombay, for his work on basic and applied research in haematological malignancies.

Dr Srinath Reddy, Associate Professor of Cardiology, AIIMS, New Delhi, has shared Shankuntala Amir Chand prize with DR V, K. Gupta, of AIIMS, Dr Saral Thangam of K.K. Nagar Madurai and Dr K. Indirani of Christian Medical College, Vellore and Dr Sanjiv Agarwal of Saha Institute of Nuclear Physics, Calcutta.

Raja Ravi Sher Singh of Kalsia Memorial Cancer Award has been given to Dr Veena Kashyap, Institute of Cytology and Preventive Oncology, ICMR, New Delhi. Dr Savita Malhotra of PGIMER, Chandigarh, has been awarded Tilak Venkoba Rao Award for psychological medicine. Dr T. Ramachandra Rao Award for medical entomology has been given to Dr D. T. Mourya, National Institute of Virology, Pune. Dr V.M. Katoch of Central Jalma Institute for Leprosy, Agra, has received Dr C.G.S. Iyer Oration Award for leprosy research. Dr Dharmvir Datta memorial Oration Award for liver diseases has been jointly granted to Dr Hema Gupta and Dr M. Irshad, both of AIIMS.

Dr C.P. Mishra, Institute of Medical Sciences, Banaras Hindu University, Varanasi, has been selected for Prof B. C. Srivastava Foundation Award for community medicine. Maj General Saheb Singh Sokhey Award for communicable diseases has been granted to Dr Tannaz Birdi of the Foundation for Medical Research, Bombay, and Dr H.B. Dingley Memorial Award for paediatrics has been given to Dr Ram Kumar Marwaha of PGIMER, Chandigarh, for his work on paediatric haematology-oncology.

Gandhi and Youth

Gandhi Smriti and Darshan Samiti, and Department of Youth Affairs, Govt. of India propose to organise a 3-day Orientation Programme for Student and Non-Student Youth at Gandhi Darshan, Rajghat, New Delhi on 18 -12 April, 1991.

The objectives of the programme are asunder :

i) To bring together student and non-student youth from different parts of India for exchange of ideas;

ii) to expose them to some of the basic concepts of Gandhi on communal harmony, national integration, social justice and the role of youth in working for communal harmony;

iii) to joyfully participate in group singing on unity and communal harmony;

iv) to provide opportunities for the participants to meet some of the senior-most living Gandhian leaders and freedom fighters;

v) to encourage the participants to read more about Gandhi and to work like inspired citizens of India to promote the ideals which Gandhiji was seeking to promote;

vi) to encourage the participants in learning more about Gandhi so that the message of his martyrdom is understood properly by the youth; and

vii) to arrange visit to places and institutions associated with Gandhi in and around Delhi.

Student and non-student youth below tho age of 30 years, who will be sponsored either by the heads of educational institutions or by Nehru Yuva Kendra Sangthan, NSS or Gandhian organisations are eligible to participate in the orientation programme. Selected candidates will be paid one way double journey fare by 2nd Class.

Applications duly recommended must reach the PA to Director, Gandhi Smriti and Darshan Samiti (GSDS), 5, Tees January Marg, New Delhi-11 by 10TH APRIL 1991.

Gramotsava in Naya Gaon Village

Women's Studies and Development Cell, S.D. College, Muzaffarnagar in collaboration with Church's Auxiliary for Social Action, New Delhi organized a Gramotsava at Naya Gaon (Mansoor Pur) village on 9th March, 1991. Mahila Mandal and Yuvak Mangal Dal of the village also cooperated in the organisation of Gramotsava.

A health camp was organised as part of the Gramotsava. The medical team examined the children and women of the village and distributed medicines and referred serious cases. The health camp was organised for the second time in this village. The second immunization doses were also given.

An exhibition of low cost readymade garments was also organised in the Gramotsav by students of B.Sc. (Home-Science). The exhibition motivated the village women to make these garments by which they could earn some money and become economically independent. A sewing school is proposed to be opened in the village very soon.

An exhibition of posters relating to 'Girl - Child' was also organised in the Gramotsava. These posters showed the real plight of the innocent girls of our society.

News from UGC

Countrywide Classroom Programme

Between 8th April to 14th April, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

8.4.91

"Angular Momentum "

"Objectives of Commerce Education -III"

"Agriculture and Biotechnology - II "

9.4.91

"Chemical Clock Reactions - I "

"Drug Abuse "

"Medicine's New Vision - II : Computed Axial Tomography "

10.4.91

"Bioagas : Wealth from Waste "

"Why History? "

"Vector Plasmids : Tools of Genetic Engineering"

11.4.91

"Identifying Fibers "

"Folklore and Folkloristics - II "

"On Poetry and Translation - II : Indo-Anglian Poetry "

12.4.91

"Fibonacci Numbers-I "

"Psychiatric Disorders - V : Psychotherapy "

"Vitamin A - The Eye Factor "

13.4.91

"Understanding Cinema - XIII : How Films are made - II"

"Daughter of Eve - I"

"Bonasai"

14.4.91

No Telecast

2nd Transmission

4.00 p.m. to 5.00 p.m.

8.4.91

"Human Relations Approach "

"Industrial Development in India : Post Independence Perspectives "

"Seed Processing "

9.4.91

"Titanium - The Wonder Metal "

"Media in Third World - III : Nigeria "

"Sarvam Saha : Echoes From the Work Site "

10.4.91

"Science of Far & Near "

"Balthasar Neumann - From Bell Caster to Architect in Wurzburg Internationes, F.R.G."

"Pattern & Mechanism in Dragonfly Reproduction "

11.4.91

"Computer Around Us "

"Waiting for Godot - II '

12.4.91

"Know Them By Dialogue : Talk With Astronomer Prof. Terlevich "

"Environmental Special : For the Long Run U.S.I.A."

13.4.91

"Understanding Cinema - VIII: Sound - III - Music "

"Odissi : The Art of Expression - II Abhinaya "

14.4.91

No Telecast

Special UGC Grant

The University Grants Commission has agreed to provide a special grant of Rs 20 lakhs to six colleges which have completed hundred years of their existence and have earned recognition for outstanding contribution to the cause of higher education.

These colleges are Presidency College, Calcutta, Presidency College, Madras, Christian College, Madras, CMS College, Kottayam, Ravenshaw College, Cuttack, and Agra College, Agra.

This grant has been sanctioned by the UGC for enabling the colleges to meet expenditure of capital nature like construction of building.

We Congratulate....

1. **Dr. H.C. Visvesvaraya, Vice-Chancellor, University of Roorkee, who has been conferred Padma Shri by the President of India for his invaluable contribution to the Indian Cement Industry.**

2. **Shri P.N. Haksar who has taken over as Chancellor of the Jawaharlal Nehru University, New Delhi.**

POST GRADUATE INSTITUTE OF MEDICAL EDUCATION & RESEARCH CHANDIGARH

ADMISSION NOTICE NO.16/91

Closing date for receipt of applications is **30th April, 1991**

Applications, on prescribed form, are invited for the following postgraduate/post-doctoral courses etc. for the academic session starting from First July, 1991:-

I. FIRST YEAR JUNIOR RESIDENTS (for MD/MS courses) in the following subjects:-

a) Clinical Group -42

Anaesthesia - 6
Medicine - 9
Psychiatry - 1
Surgery - 10
Dermatology - 1
Obst.& Gynae - 3
Ophthalmology - 4
E.N.T. - 3
Paeditris - 3
Radio-Diognosis
Radio-Diagnosis - 2

b) Para Clinical Group - 9

Pathology - 5
Pharmacology - 4

i) Those completing their internship after 30.6.1991 are not eligible.

ii) For clinical group candidates can apply for a maximum of two subjects only.

iii) Only one application needs to be submitted. The choice of subjects may be indicated in the relevant column of the application. Application fee is Rs.60/- per subject.

iv) $22\frac{1}{2}$% of the seats in each of the above mentioned groups are reserved for candidates belonging to Scheduled Castes/Tribes. In addition, 5% seats are reserved for candidates who have rendered or have carried on private practice in rural areas for a minimum period of two years. Details available with the application form.

v) A limited number of sponsored/deputed candidates may also be accepted for MD/MS courses in the subjects mentioned above as also for MD. (Radiotherapy) and M.D. (Microbiology).

II. SENIOR RESIDENTS - 19 (DM/M.Ch. courses) in the following subjects:-

D.M.

Cardiology - 3
Gastroenterology - 3
Neonatology - 1
Nephrology - 2
Clinical Pharmacology - 1
Pulmonary Medicine - 1

M.Ch.

Cardiovascular & Thoracic Surgery - 2
Paediatric Surgery - 3
Plastic Surgery - 1
Urology - 2

a) 1-2 seats may be available for sponsored/deputed candidates in all the subjects mentioned above except in the subjects of Pulmonary Medicine and Urology. 1-2 deputed/sponsored candidates may also be accepted in the subjects of Endocrinology, Neurology and Neuro-Surgery.

b) Upper age limit on 1.7.91: Not more than 35 years for general candidates and 40 years for candidates belonging to Scheduled Castes/Tribes and for ex-servicemen and commissioned officers including E.C.O./S.S.C.O., who have been released on satisfactory completion of assignment (including those whose assignment is due to be completed within 6 months). No upper age limit restriction for deputed/sponsored candidates.

c) Candidates due to appear in MD/MS examinations during April/May, 1991 can also apply. They will be admittedto the entrance test only if they supply the result of their examination from the University concerned atleast a day before the entrance test.

II. Diploma course in Immunohaematology and Blood Transfusion.

IV. M.Sc. Medical Technology (Pathology) with Bacteriology or Parasitology or Virology as a special subject.

V. M.Sc. Medical Technology (Microbiology) with Bacteriology or Parasitology or virology as a speical subject.

VI M.Sc. Medical Technology (Biochemistry)

VII M.Sc. Medical Technology (Pharmacology & Physiology)

VIII M.Sc. Medical Technology Radiology with Radio-Diagnosis or Radiotherapy as a special subject.

GENERAL INFORMATION

1 For all courses, where MBBS or MD/MS is an eligibiligy requirement, candidates who have made more than one attempt (i.e. have more than one failure, compartment or re-appear) during their MBBS course are not eligible. However, those belonging to Scheduled Castes/Tribes with upto two attempts in their MBBS career will be eligible.

2. Those applying for the reserved seats must append, with their applications, a certificate from the District Magistrate concerned insupport of their claim. No other certificate will be entertained.

3. For courses at categories III to VIII above only sponsored/deputed candidates will be considered.

4. The number of seats wherever indicated is provisional and is subject to change without prior notice.

5. The application must be accompanied with non refundable fee of Rs.60/- in the form of postal order/bank draft drawn in favour of the Director for each of the courses mentioned above. A candidate applying for more than one subject/course is required to submit separate application, complete in all respects for each subject/course, except for category No.1.

6. Application form and detailed information are available from the office of the undersigned either personally on payment of Rs.20/- atthe counter from 10.30 AM to 11.30 AM and from 2.30 PM to 3.30 PM on all working days (except Saturdays) or by post for wheih the request must be accompanied with a self addressed envelope size (23x10 cms.) bearing postage stamps of Rs.4.50 and crossed postal order for Rs.20/- drawn in favour of the Director.

O P Sharda
REGISTRAR

AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on Higher Education. Among the topics prominently represented are Educational Sociology, Educational Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Education and Country Studies. Developing fields of Adult Education, Continuing Education and Distance Education, and Educational Technology are also well stocked. The library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of Higher Education. Files of Annual Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to the AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

HUMANITIES

Religion

1. Pandey, Satyendra Kumar. **A critical and analytical study of the Dhamma as depicted in the Abhidhammatthasangaho.** Delhi.

Language & Literature

1. Kaushal, Manu. **Discourse of schizophranics : A psycholinguistic study.** Kurukshetra.

English

1. **Abraham, Joy. Themes and narrative techniques in the novels of Arun Joshi.** Calicut. Dr C P Sivadasan, Department of English, Calicut University Centre, Tellicherry.

2. Chakravarty, Shobhana. **A phonological and phonetic study of the varieties of English spoken by two groups of Bengali speakers.** CIEFL. Dr Rani S Rubdy.

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1. **Eligibility:** Only those candidates who have qualified in the eligibility test conducted by the UGC for Lecturership will be eligible for consideration for appointment as Lecturer.

Candidates who have secured 55% marks at Master's Degree level are exempted from the eligibility test if:

i) they have passed UGC/CSIR JRF examination; or

ii) they possess M.Phil/Ph.D. degrees; or

iii) they are pursuing a Ph.D. Programme and expect the degree to be awarded before December, 1992.

2. Qualifications: Essential: a) Master's Degree in the relevant subject with atleast 55% marks/equivalent grade or an equivalent Degree from a foreign University. b) Good academic record.

Desirable: A Doctor's Degree in the relevant subject of research work of an equally high order.

Areas of specialisation in particular subjects:

a) Economics. **Mathematical Economics/Statistics/Econometrics; Development Economics/Planning/Monetary Economics.**

b) Political Science: Modern Indian Political Thought/Political Theory/Indian Government and Politics/Comparative Politics.

c) Education: Adult Education/Educational Technology/Distance Education.

d) Rural Development: Any subject in Social Sciences or in a subject relevant to Rural Development.

e) Women's Education: Any subject in Social Sciences or a subject relevant to Women's Education.

f) Distance Education : Programme Evaluation, Staff Development and Systemic Research.

4. Other Requirements: i) For the posts of Lecturers in Distance Education (programme Evaluation), candidates should possess, besides a Master's degree in Social Sciences, a minimum of three years experience in planning, organising and conducting research and experience of tabulation and analysis of data.

ii) For the posts of Lecturers in Education and Distance Education (Staff Development and Systemic Research) candidates who possess a Master's degree in any subject and the IGNOU diploma in Distance Education may get preference.

iii) For the posts of Lecturers in English, experience in editing university level text books, professional journals, or other academic publications would be additional desirable qualifications. Candidates who have made significant contributions to creativity in Language and Literature may get preference.

Subject Area II : Computer Science, Engineering & Technology.

Qualifications: a) For Engineering & Technology: Essential: First Class Bachelor's Degree in any of the following branches of Engineering & Technology:

i) Civil Engineering

ii) Mechanical Engineering

iii) Electrical/Electronics Engineering

b) For Computer Science: First Class Bachelor's Degree in Computer Science, or Master's degree with 55% marks in Computer Applications.

Desirable (for both a & b) : M.Tech Degree, or industrial or professional experience.

Subject Area III : Management Studies.

Qualifications: Essential: a) Master's degree in Business Administration with at least 55% marks/equivalent grade, or an equivalent degree from a foreign University.

b) Good academic record.

Desirable: A doctoral degree in Management or published work of an equally high order.

Preferred Areas of Specialisation: a) Operations Management b) Computer and Management Information Systems.

b) International Business/Marketing.

Additional Qualifications for all posts: Experience and proven ability in organising and conducting distance education programmes or any other innovative programmes of education in the relevant subject areas, or in the development and preparation of instructional materials. and ability in the use of various Communication media, will be a desirable additional qualification for all posts.

The following general conditions are applicable to all posts:

1. It will be open to the University to consider the names of suitable candidates who may not have applied.
2. Relaxation of any of the qualifications may be made in exceptional cases on the recommendations of the Selection Committee.
3. Canvassing in any form by or on behalf of the candidates will be a disqualification.
4. The University reserves the right not to fill up any of the vacancies advertised if the circumstances so warrant.
5. In appointment to the post of Lecturers, reservation to the extent of 15% and 7.5% for Scheduled Castes and Scheduled Tribes respectively is made.
6. The selected candidates may be posted at the headquarters of the University in New Delhi or at its Regional Centres throughout the country. Some of them may also be appointed as Assistant Directors at the Regional Centres. They are also liable to be transferred to any of the University's Offices/Regional Centres.
7. Since applications received may be shortlisted, merely possessing the prescribed qualifications and requisite experience would not enable a person to be called for the interview.
8. No interim queries or correspondence regarding issue of call letters for interview or selection of candidates for a post will be entertained at any stage.

The prescribed application forms can be had from the **office of the Director (Teacher's Affairs) Block No.4, Room No. 20, Indira Gandhi National Open University, Maidan Garhi, New Delhi-110 068.**

The prescribed application form can be had by post also from the above address on written request accompanied by a self addressed and stamped envelope (size 28x13 cms) bearning postage stamps of Rs.4/-. Requests not accompanied by stamped self-addressed envelope will not be considered.

Applications duly completed alongwith attested copies of degrees, other certificates, marks-sheet, published research articles etc. should reach the above address by **26th April, 1991.**

The candidates will have to produce the original documents relating to their age, qualifications, experience etc. at the time of interview.

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Travelling Allowances: Candidates called for the interview, will be paid 1.33 times the railway fare each way by ordinary second class and a sum of Rs. 35/- as halting allowance for the day on which interviewed.

Application Forms : Application forms and other details can be obtained by writing to the Senior Administrative Officer (Establishment), Tata Institute of Fundamental Research, Homi Bhabha Road, Bombay 400 005 before **April 25, 1991**, along with a stamped (Rs. 2/-) addressed envelope of size 24cm x 11cm. The completed application form should reach the Senior Administrative Officer on or before **May 15, 1991.**

Advt. No. 9/91

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ANNOUNCEMENT

Applications are invited for the following scholarships/fellowships for the 1992-93 academic year:

1. U.S. Government POST-DOCTORAL FELLOWSHIPS for independent research. Scholars permanently employed in colleges, universities and research institutions, with a Ph.D. or equivalent published work are eligible to apply. Available fields: (i) AMERICAN STUDIES including International Relations, Literature, Law and Art; (ii) EDUCATION: Vocational Education, Educational Testing, Accreditation; (iii) EDUCATIONAL TECHNOLOGY (iv) INFORMATION TECHNOLOGY/LIBRARY SCIENCE; (v) COMMUNICATION/MEDIA; (vi) ANTHROPOLOGY/SOCIOLOGY; (vii) ENGLISH LANGUAGE TEACHING, e.g., English for Special Purposes (ESP)/English for Science and Technology (EST) and Teaching of English as a Foreign Language (TEFL). AGE: below 45 years. **Duration 4-7 months. Last Date: July 12, 1991.**

2. Readers and Professors and faculty of equivalent rank in research institutions, with a Ph.D. or equivalent published work, may apply for short-term fellowships. Fields: (i) AMERICAN STUDIES, (ii) MANAGEMENT OF EDUCATION/SCIENCE EDUCATION Interdisciplinary Approaches and (iii) DEVELOPMENT ECONOMICS. AGE: below 55 Years. Duration:3 months. **Last Date: July 12, 1991.**

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For details and preliminary application forms, please write to the nearest office of USEFI specifying the program for which application forms are required, giving details of age, class and percentage of marks of all university examinations taken and present position, **with a stamped (Rs. 3) self-addressed envelope, size 23 cms. x 10 cms.**

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University News

MONDAY, APRIL 8, 1991

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Mangalore Varsity Convocation

Dr. V.S. Arunachalam, Scientific Adviser to the Union Defence Minister, delivering the convocation address.

On left (L to R) are Shri Sadashiva Rao, Registrar (Evaluation), Prof. M.I. Savadatti, Vice-Chancellor, Shri M. Veerappa Moily, Karnataka State Education Minister & Pro-Chancellor and Prof. K.M. Kaveriappa, Registrar of the University

School of Correspondence Courses

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ENTRANCE EXAMINATION NOTIFICATION - JULY 1991

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Applications are invited from the candidates residing in India for Entrance Examination for admission into 1st year B.A./B.Com. Degree Courses for the academic year 1991-92 through the School of Correspondence Courses.

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Applications will be issued from 15th April, 1991. Duly filled-in applications should reach this office on or before 15.5.1991. Applications received after the due date of 15.5.1991 will be accepted on payment of the penal fee at the following rates:

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(B) **Study Centres:** (1) Government College, Srikakulam; (2) M.R. College, Vizianagaram; (3) Mrs. A.V.N. College, Visakhapatnam; (4) Government College, Rajahmundry; (5) P.R. Government College, Kakinada; (6) Sir C.R Reddy College, Eluru; (7) S.R.R. & C.V.R. Govt. College, Vijayawada; (8) A.C. College, Guntur; (9) D.N.R. College, Bhimavaram; (10) A.B.M. College, Ongole; (11) Silver Jubilee College, Kurnool; (12) Indian Institute of Management and Commerce, Hyderabad; (13) A.M.A.L. College, Anakapalle; (14) R.S.R.K.R.R. College, Bobbili; (15) Noble College, Machilipatnam; (16) V.S.R. & N.V.R. College, Tenali; (17) Government Degree College, Narasannapeta; (18) S.G.S. College, Jaggaiahpeta; (19) S.S. & N. College, Narasaraopeta.

Waltair
20-3-1991

Prof. V. Abraham
DIRECTOR

NOTES:

1. The students of Introductory Course of this School need not pay Rs. 20/- towards the cost of application form, syllabus, etc., and also need not send the requisition letter for the Entrance Examination application form. The School will send the necessary application form to the students of Introductory Course. However, the duly filled-in application form should be returned to the School with all necessary enclosures on or before 15-5-1991.
2. The applicants should clearly mention whether they require Entrance Examination application form for B.A. or B.Com.
3. The Entrance Examination fee is Rs. 75/-.

UNIVERSITY
NEWS

VOL. XXIX APRIL 8
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Opinions expressed in the articles are those of the contributors and do not necessarily reflect the policies of the Association.

Editor :
SUTINDER SINGH

STUDENT GOVERNMENT
SCOPE AND FUNCTIONS

K. Venkata Reddy *

The emergence of militant student movements resulting in strikes and gheraos has become the order of the day, causing considerable alarm both to the educational authorities and the governments. The traditional practice has been either to suppress the violent turn or to succumb to its excruciating threats.

If, on the other hand, there can exist effective agencies within the institutional set-up to deal with the deficiencies of the educational system whereby the rampant student unrest could be arrested, the present trend of the student body to depend on violence as a measure of self-help will be rendered unnecessary. Thus, if the forces of self-discipline have to emerge from within, the principle of self-government in regard to students will have to be accepted whereby educational institutions can become more democratic and dynamic. The students certainly need more opportunities to take decisions, shoulder responsibilities and practise democratic procedure thereby to develop proper leadership qualities.

Traditionally the serious defect of educational institutions has been the overlooking of the basic premise that the university is a living community comprising students, teachers and administrators. Excluding the students altogether, the administrators in league with some teachers have been framing policies and taking decisions that governed the academic life of students. Nothing could be more ironical than this system inasmuch as it eliminates the involvement of the very persons for whom it is primarily meant.

At present, student participation in the university life amounts to no more than students assuming a passive role in co-curricular activities such as debating competitions, cultural shows and sports. But the time has come when we must necessarily enlarge the scope of student participation so as to make it something richer and more meaningful than it is today through the proper organisation of Student Governments in the Universities.

The student government plays a major role in shaping the life on campus through its numerous academic and social activities. The objectives of student government are:

(i) facilitating communication among various segments of the campus;

(ii) increasing the student's identification with the college and his feeling of personal responsibility for learning and development by involving him in making decisions about collegiate life and behaviour;

(iii) providing experience and participation in self-government as a part of citizenship and leadership training; and

(iv) providing a method for meaningfully relating various student activities to each other.

The value of student government arises from the educative function it seeks to perform. The existing classroom experiences which revolve around pure academic goals hardly provide an adequate educative environment.

(Contd. on page 5)

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*Prof., Deptt. of English, Sri Krishnadevaraya University, Anantapur - 515 003 (A.P.).

Systems Concept in Higher Education

N. Rajamony*

Introduction

We all know that there was a large scale quantitative expansion of higher education in all its dimensions since independence in 1947. Today, we have 190 universities (and university level institutions) and over 6000 colleges being administered mostly by the central and state governments, and a few by the private sector. The National Policy on Education in 1986 and the earlier Education Commission reports have stressed the need for maintaining the quality of higher education. Qualitative improvement and optimal effective utilization of various resources are the needs of the present and the future. We are also aware that the effectiveness of any organization including a university or a college depends upon its ability to accomplish three essential aims, namely to achieve its goals, maintain itself internally, and adapt to its environment.

If an institution of higher education fails to realize the above aims, it is unhealthy or ineffective. On the other hand, if it is able to realize the above aims, it is healthy, flexible, able to learn through experience, free to change and free to respond to new and demanding situations. Traditionally, organization has been viewed as a means of arranging resources so as to accomplish a set of given objectives. This is a perfectly fair and reasonable way of looking at organization, but it is not the only way; indeed, this rather simple view may obscure the inner workings and internal purposes of organization. For example, a book, a lesson, a film, or a programme, are all designed to realize learning objectives of some kind or another, but this tells us very little about the way the material is internally arranged or structured, nor does it cast any light on the different behaviours of students using the materials. An alternative, and probably more productive way of looking at organization is to regard it as a mechanism having the ultimate purpose of offsetting those forces which undermine collaboration by coordinating resources and effort, dividing work and function among participants, and using a hierarchy of authority and responsibility.

In the classical view, the student is typically regarded as a given, rather than as a variable, in the educational system; as a passive instrument to be manipulated and acted upon. Teachers associated with this classical approach see their role as that of custodians and benevolent autocrats, who attempt to realize their objectives by motivating, controlling, and modifying student behaviour through some variant of class-teaching based usually on talk and chalk. The approach is essentially task-centred. It is related to the teacher-dominated, doing things to, subject emphasis, class-teaching, limited resources, and teaching-aid practices. In the human relations view, students are to be given the education and training best suited to their age, aptitude, and ability, so that they can fully realize their innate potentialities. The role of a teacher in such an organization is that of guide, adviser, counsellor, whose main responsibility is to avoid stifling students' initiative. Such an approach is essentially related to be permissive, doing things for, method emphasis, group-teaching, multiple resources, and learning-aid practices. The modern approach to organization combines both the task and the human relations orientations of the other two views. It is essentially student-centred, and sees education and training as both a social and technical system in which the ends of the task and the needs of the students have to be reconciled with the needs of the teacher and the needs of the organization. Such a view is related to the inquiry-centred, doing things with, discipline emphasis, independent study, instructional systems, and instructional technology practices. In fact, the more meaningful approach is to take a whole view, both task and human, and to determine how each of the many constituent parts interact with each other.

Concept of a System

System is the organization of process consisting of inter- related parts (consisting of man/machine unit, team, sub-system, etc.) designed to *transform* a certain *input* from its environment into an *output* desired by the *environment*. This inter-relation among various components of the system is, brought about by a well designed communication network which enables everyone to know one's job in relation to the total objective of the system and execute one's own part (institution's goal versus individual goals). The system maintains its adaptability through feedback provided by its environment and functions optimally through a well-designed control mechanism built into it. The components of a system are graphically presented below:

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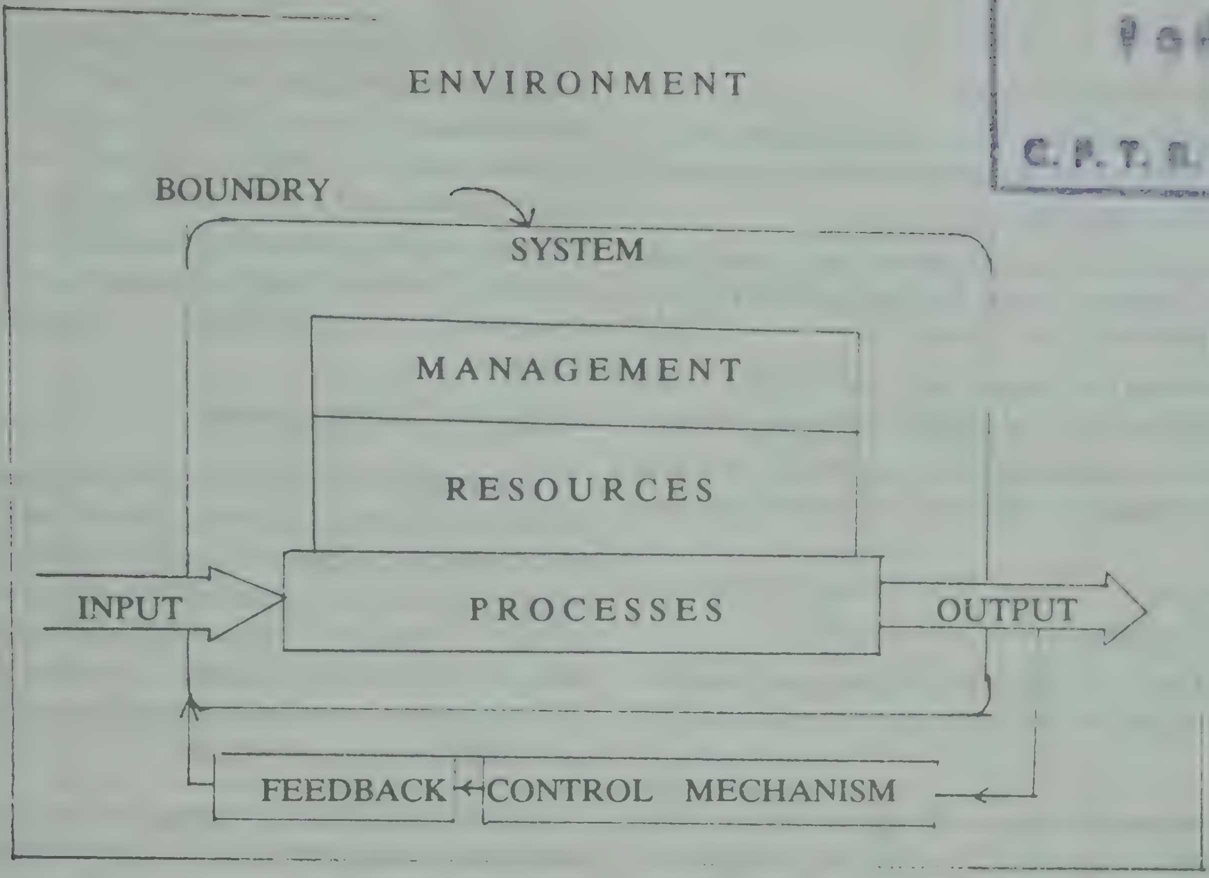
Lawspet, Pondicherry - 605 008.

LIBRARY & DOCUMENTATION
UNIT
C. F. T. R. I. MYSORE



Graphic Representation of System

Systems Analysis involves asking a series of interrelated key questions not seriously considered by classical and human relation views of organization. These questions, which concern the operation of the whole system are:

1. How are the three objectives of a system (stability, growth, and interaction) realized?
2. What are the strategic parts of the system?
3. What is the nature of their mutual interdependency?
4. What processes link these main parts?
5. How do these processes facilitate adjustment?
6. How are distortions or irregularities in the system recognized?
7. How can distortions and irregularities in the system be dealt with?

The reason such questions are asked is not only to discover principles or universals of organization, but also to help predict the likely effect that any change may have-both within the system itself, and within the environment in which the system operates.

Systems Approach to Teaching-Learning

Each system is part of a larger system, and systems approach is a systematic attempt to coordinate all aspects of a problem toward specific objectives. In Teaching-Learning, this means planned, organised use of all available learning resources, including audio-visual media, to achieve the desirable learning objectives by the most efficient means possible. It focusses first upon the learner and the performances required of him/her. Only then, it makes decisions regarding course content, learning experiences and the most effective media and instructional strategies. It also incorporates within itself the capability of providing continuous self-correction and improvement. It is concerned with all elements of instruction including media. Its purpose is to ensure that the components of the organic whole will be available with the proper characteristics at the proper time to contribute to the total system fulfilling the objectives. The procedural steps in the systems approach involved in Teaching-Learning are as follows:

- Defining goals, learning objectives and stating them in behavioural and measurable terms.
- Determining functions related to the achievements of these goals by proper aids like films, recordings, videotapes, etc.
- Defining learner characteristics and pre-requisites.
- Choosing appropriate methods suitable for effective learning of the topic.

- Selecting appropriate learning experiences from many alternatives available.
- Selecting appropriate materials, facilities, equipment, resources, environment and tools required for providing learning experiences.
- Defining and assigning appropriate personnel roles for teachers, team teaching members, supporting personnel and learners.
- Implementing the programme, that is Try-out with a few students in typical and appropriate condition.
- Testing and evaluating the outcome in terms of original objectives measured in learner performance.
- Refining and revising, if necessary to improve production and efficiency of the system:

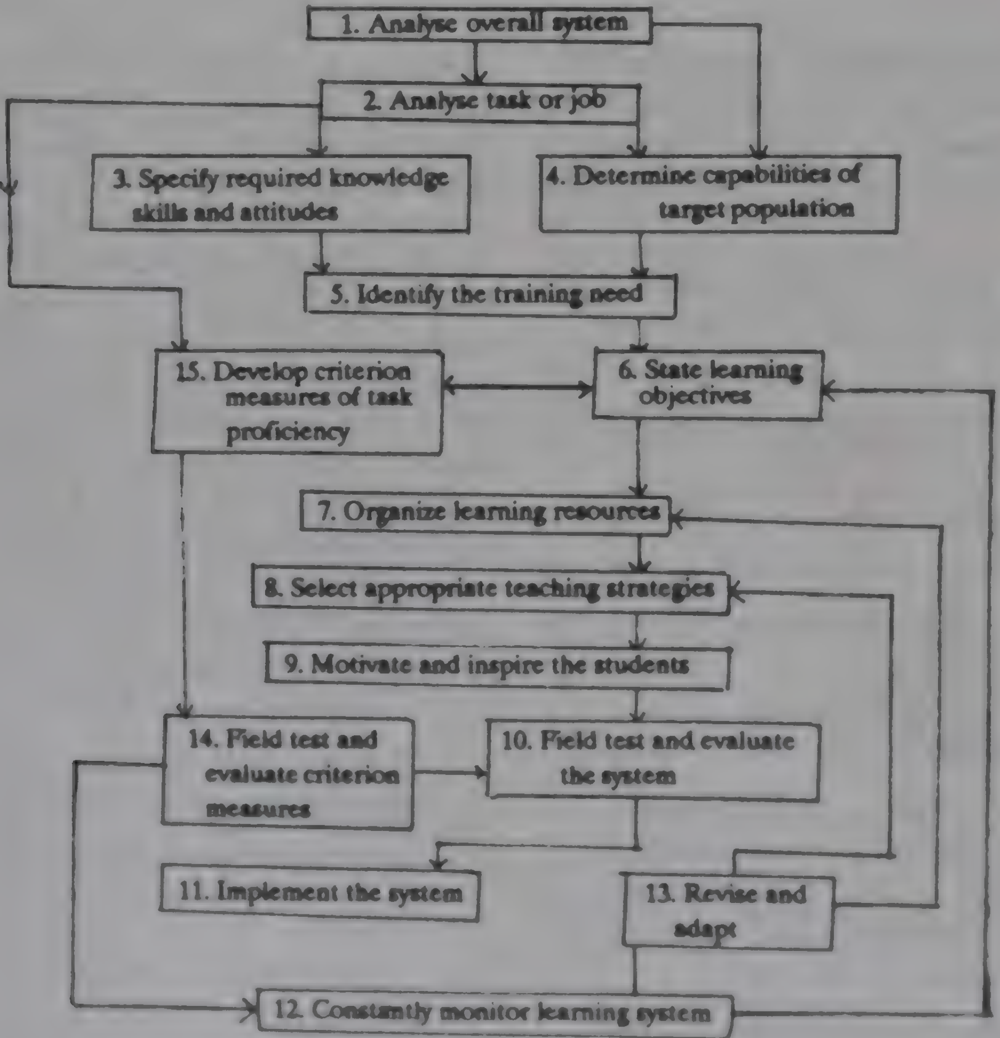
In an instructional system, the teacher and the resources made use of are included as components of the system.

In short, the systems approach applied to Teaching-Learning situations involves the following interlinked and interdependent stages: (i) Explicitly stated standards of output performances, including sequenced behavioural objectives and post test; (ii) Planned input and processes involving structural learning materials and methods suitably geared to the needs of a particular group of learners; (iii) Monitored output which is used to revise, improve and evaluate the instructional system, providing feedback to the learner and teacher; and (iv) A degree of inbuilt flexibility to adjust to individual situations.

Design of a Learning System

A learning system is an organized combination of people, materials, facilities, equipment, and procedures which interact to achieve a goal. It may be one student reading a book or an entire institution-university or college. We may even consider the educational establishment of an entire city as a learning system because its component elements are organized and interact with one another to educate students.

When we say that a learning system is an organized combination of elements, we mean two things: first, that there is an intentional arrangement of people, materials


1. Analyse overall system
2. Analyse task or job
3. Specify required knowledge skills and attitudes
4. Determine capabilities of target population
5. Identify the training need
15. Develop criterion measures of task proficiency
6. State learning objectives
7. Organize learning resources
8. Select appropriate teaching strategies
9. Motivate and inspire the students
14. Field test and evaluate criterion measures
10. Field test and evaluate the system
11. Implement the system
13. Revise and adapt
12. Constantly monitor learning system

The steps involved in developing a learning system and procedures (the elements of a system are not arranged haphazardly, but according to a specific plan); and second, that the elements of a system are interdependent (the people, materials, and procedures are part of a coherent whole when each contributes something to others and that every part is essential). The most essential characteristics of a learning system are a planned and interdependent arrangement of its component elements.

The minimum elements of a learning system are a learner, a learning goal, and a procedural plan for achieving the goal. A learning system need not include a teacher in the traditional sense of someone who imparts information. There are many kinds of learning systems in which information is transmitted by some other medium than the teacher, such as a book, a motion picture, a set of photographic slides, or a programmed text. A learning system may include administrators, equipment, and learning materials; but no matter how many elements are included in the system, there must be a procedural plan that describes how the elements function in achieving the system's goal, namely student learning.

In the design of a Learning System, the major step is to arrive at learning objectives, and once these have been defined and the learning resources organized, the main concern of the teacher is to manage in terms of the results that are obtained. If the objectives are being realized, well and good; if the objectives are not being realized, the teacher must organize anew. In designing a course or programme for learning, a number of requirements must be taken into account. The teacher must consider not only the requirements of the task, but also the requirements of the students, the groups within which they work, and the organization of which they are a part. The steps involved in developing a Learning System are illustrated in the figure given at page 4

It will be seen from the figure that designing a learning system or programme involves an orderly sequence of 15 activities, the majority of which represent the basic framework of the course, while others – no less important – are concerned with validation of the system, once it has been installed. The 15 activities can be summarized under the headings of:

1. *Planning:* This involves activities 1,2,3,4,5,6,14 and 15. All of these are concerned with defining the real nature of the problem that the learning system has to overcome.

2. *Organizing:* This involves activities 7 and 11, and deals with the way in which learning and teaching resources are arranged in accordance with the plans that have been agreed.

3. *Leading:* This involves activities 8 and 9, and concern the way in which the teacher adds himself to the system so as to guide and inspire his students.

4. *Controlling:* This involves activities 10, 12 and 13. All of these are concerned with evaluating the success of the learning system in realizing its objectives.

Conclusion

The effect of employing system's concept in higher education is very great indeed, for not only is the role of the teacher affected, but also the role of the student to:

- Change the teacher's function in the learning process.
- Encourage the use of teacher-auxiliaries for the more routine and mundane operating duties.
- Change the architectural basis of the institution, from a teaching to a learning design.
- Allow the use of more informal teaching methods.
- Capitalize upon the advantages of allowing students to progress at their own individual rates of learning.
- Change the nature of administrative and financial controls
- Encourage the development of working partnerships between educators and government, educators and industry, educators and society.
- Encourage the development of more learning aids appropriate to the needs of the learning situation.

This does not mean that all these changes will be realized at once. But it does mean that the necessary conceptual framework is available for their development and standards of effectiveness introduced.

Student Government

(Contd. from page 1)

Active participation of students in the life of the university through the organisation of student government provides them certain basic experiences and situations which are necessary for developing certain qualities like (a) the critical bent of mind; (b) the positive attitude to democratic leadership. (c) the spirit of working together with others for common goals; (d) the sense of commitment in life; (e) the sensitivity to the needs of others; and above all, (f) the sense of responsibility for the happiness and suffering of others. These are precisely the qualities that would go a long way in making a well-adjusted, self-disciplined and integrated personality of the university student which is the need of the hour.

Role of Educators in Changing Perspectives

U.C. Vashishtha*
K.C. Sahoo**

As the very concept 'change' suggests, it is a shift, altering or motion from one previously existing state to the next state. Such a shift can be with reference to people, place, things and even ideas. It has to be noted that the slightest shift in the nature, configuration or process of any of the above referents would constitute a change. History and physics are the evidences that change is inherent in the nature since time immemorial. Change is the only permanence and essence of reality. Any element or its fraction existing in this universe is prone to change. However, depending on the nature, the time and speed of change in these fractions of elements may be relatively different.

Since its origin the human society has been evidencing a number of changes. It is not under the view of this paper to reflect upon all such changes. Even if we restrict our study to a period of last three to four hundred years, one can say with certainty that there have been a number of changes which have affected the human society in both desirable and undesirable ways. Even one particular change in one aspect has both desirable and undesirable consequences. Attainment of wealth or education can be used to both help and exploit the poor/down trodden. Similarly, attaining of higher life years by medicine is both a boon and a curse. In our context, after the industrial revolution on one hand the human race is endowed with certain features like easy life style, higher mobility, advanced information gathering, processing and disseminating system with the modern science and technology and, on the other hand, we have the curses in the form of higher rate of mental failures, suicides, divorces, crimes, violence, highly polluted urban cities and dehumanized conditions of living and working.

Education as well as philosophy as most basic instinct and potentiality of the human race have enabled the mankind at all times not only by critically self appraising the then existing images of society but also by stopping for a moment, intervening and giving a direction to social and other changes. It is true that like many others education as one of the subsystems of society, is susceptible to environmental/social impacts. Hence, changes occurring in the society, both desirable and undesirable, do affect the system of education naturally, be it formal, non-formal or informal. And unfortunately, instead directing/influencing social changes, mostly educatio itself is being directed/influenced by them. It is mo so, so far as scientific and technological changes ar concerned. Nevertheless influential are political cha ges. Education, in recent years, has utterly failed perceive the true picture of the society, analyse th shaping forces hidden behind and playing a leading an intervening role in directing the society toward desirable ends.

However, to say that in such spurts of gettin changed education lies passively, not reacting but simp ly responding to the changes all the time in a mechanica manner is not true. Education, like other excitin human endeavours, is a pulsating, affecting and react ing discipline. More so because of the educator, th pivot of the discipline. He is much more than a mer employee. He does not inform only. He infuses an inflames us with knowledge and wisdom. He does no merely push us to pleasure. He helps us enjoying th joys of learning and drawing the best out of life. He i not merely an onlooker. He is a seer helping us seeing As per Radhakrishnan Commission's Report 1948, h is a visionary who sees far ahead of his time and set goals for human society. He has the power of goin beyond now and making a now beyond.

The evidences and instances of intervening role o education are numerous. Schumacher in his boo "*Guide for the Perplexed*" describes the characteristics o self-awareness as the quality possessed by human being alone among all living beings. By virtue of this quality as a matter of fact, every normal human being on eart is potent enough not only to be aware of himself and hi surroundings but also to make others around him an future generation aware of such knowledge gathere through ages in the process of self awareness. Education is the only means of developing this self awarenes and giving a realization of the 'pool of potentiality' i man.

However, there are instances when the individual and groups have been successful in educating an diverting the social changes. Aristotle, the great Gree philosopher was successful in shaping the personality o his disciple Alexander, the great. Augustine Comte, th famous philosopher, sociologist, and educator gave new direction to the whole of the country by bein instrumental in designing the constitution. And in Indi we have the evidence of the great teacher Chankya wh elped in grooming of a great king of India, called Chandragupta Mourya. The instances can be many ore. The history and time bear the testimony.

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The only purpose of citing the above instances is to ut forth a potent logic that education can play a leading nd far lasting role of interventionist for diverting the ocial changes towards a better society. Here education s not to be conceptualized by its restrictive definition of the formal system and discipline. Rather by education we mean any deliberate attempt by individual or group, be it formal, non-formal or informal for analyzing, interpreting, devising measures and also monitoring the social changes. Education, to us, is a liberating force from all sorts of ignorance, bondage and limitedness.

However, this is not an easy task. The situation in which education has to play such a role for a future society is too complex. For education, to come out of such a complex and vicious circle like society and reflect, devise and monitor the changes in that very circle of which it is a part itself, is a very tough task, if not impossible, and this calls for catastrophic changes within the constituents of education for being potent enough as an intervening variable.

We do not mean to suggest any particular model to be imitated at the international level. This is neither possible nor desirable, simply because of the plurocultural structure of the human society. Only broad guidelines can be evolved on the basis of which region specific, local specific or even individual specific models can be built. By following some basic assumptions and a basic conviction or philosophy, at least at a methodological level, a completely decentralized model where education can play a leading role can be efficiently managed.

How such an important role education can play in a society, where the competing and affecting variables are many ? The answer comes in the form of 'role' and 'personality' of the educator only. It is the basic conviction of the authors of this paper that until and unless the educator realizes the great potential and the role he has got to play both within and outside the classroom for directing the social changes nothing spectacular is possible. Here are certain important points an educator must keep in mind before making a move in changing perspectives.

i) Change is the law of nature; To give it a direction is human.

ii) Man is potent enough to bring a change and giving it a direction also;

Education helps in realizing the potentiality.

iii) Changes through education are holistic and relatively permanent.

iv) Educator is the most potential force of changes in the society.

v) Education is not a fixed-time-space rountined activity. It rather spreads throughout life and hence both within and outside classroom job.

vi) Educator is more a leader than a follower and believes more in evolutionary changes than revolution.

vii) Future society lies in the minds of children.

viii) Educator moulds the minds through effective pedagogy which neither loses individual entity nor abhors the collectivity.

For realizing the above, the educator will have to have the conviction and philosophy of his own which would be instrumental in bringing the desirable changes for a future society. Such conviction and philosophy is not only to be believed in but also to be lived with. We can refer here to Emmanuel Kant's ethics based on the 'Principle of categorical imperative'. Thus, in the personality, attitude, vision and the whole psychological make up of the educator such a philosophical conviction has to be visualized. The educator is ever dynamic. He is constantly engaged in searching and researching new ways and means to improve upon the existing state of affairs. The nobel laureate poet, philosopher and educator R.N. Tagore who was successful in building a unique catalytic educational structure called 'Viswa Bharati' at Santiniketan says in this regard :

> " A teacher can never truly teach unless he himself is still learning. A lamp can never light another lamp unless it keeps its own flame burning".

It is not that the authors wish to present an idealistic, unrealistic and hence unattainable picture of the educator. As a matter of fact it is to be asserted that keeping in view the impacts and role of science, technology, news media, modern hard and software information technology, and the presently prevailing critical modes of abnormal human psychological behaviour being reflected in the form of aimlessness, vandalism, violence and pollution, the modern educator has got all the more reason and role to combat with such situations, and come out as a real social leader. He is the man standing between past and future. Presentation, transformation and transmission of cultural heritage are his prerogatives. He is relatively independent of forming alliances with various people, groups and organizations in the society to bring any change. By breaking the ice of passivity he must stand up from the academic armchair and give a lead role to social changes by actively involving himself in all the activities beginning from policy making to implementation and evaluation and follow-up stage. He must empower the impoverished inner man of the society and hold himself accountable for the cause. Here lies the credibility of the educator and possibility for enlightened and humane new future social realities.

Let Us Be Indians

"The founder of the Italian nation is reported to have said that having united Italy into a single country, he must now make Italians ! This is true for our country as well. All of us must become Indians", exhorted Dr. V. S. Arunachalam, Scientific Adviser to the Defence Minister and Secretary, Department of Defence Research & Development, Govt. of India. Dr. Arunachalam was delivering the Convocation Address at the ninth convocation of the Mangalore University. He said, "We must all try hard to overcome our present difficulties with discipline, tolerance and a sense of fairplay. Beyond a wholesome discipline, we must also learn to be gentle with ourselves as we are as much a children of the universe as others are and are therefore entitled to go through experiences without tormenting ourselves". Excerpts

CONVOCATION

Our country boasts not only of a very large scientific and technological manpower, but has also the largest number of illiterates for a country. Something must be said to our credit about our ability to mask and play down this deficiency: this may be due to our educated population being large in absolute numbers and to our tradition and culture which emphasised the pursuit of knowledge as paramount. Only now are we coming to realise that for any further progress and for even the very continuance as a democratic country with tolerance and secularism, we have to eradicate illiteracy. The country's march to a welfare state cannot be burdened by the millions who cannot share the journey on their own strength.

India is the second most populous country and the birth-rate is still very high, almost 32 per thousand. Often, our politicians talk of the population as an asset, but this can only be true if we can utilise all its talents which only blossom with education. At present, we are missing this rich genetic pool. There may be Ramans and Ramanujans, Gandhis and Nehrus, Gavaskars and Kapil Devs who are waiting to be discovered. They are not seen today for they are not literate due to reasons of geography, heritage, tradition or economic well-being. We must neutralise all these constraints and make basic education as a matter of birthright. It was Lokamanya Tilak who claimed freedom as the birthright, but alas it can be only enjoyed when you are a literate and thus a full member of the society.

There are also other problems that arise out of illiteracy. The major one is concerned with the continuation of age-old prejudices born out of ignorance. Reactionary prejudices and obscurantist practices thrive among illiterates and tend to stratify the society in pseudo-equilibrium where th have-nots automatically accept th second class citizenship with the a tendant curbing of fundament rights; or their rights to civic benef or education, or even in evolvi structures for conducting their ow affairs. To many, it is as though th past few centuries of social chang had not taken place.

There is also another cripplin deficiency that comes out of i literacy. This is concerned with total non-utilisation of the benefi of Science and Technology. Scienc in the past few decades have offere solutions to many endemi problems afflicting the society, b they on birth-control, or on infan mortality, or even on providing saf drinking water. Some of its succes ses are spectacular, bordering o magical, transforming travel an communication as never before i human history and making the con sumer product revolution cheap and easily available. The very in strinsic nature of Science and Tech nology to catalyse social changes a seen in the Europe of eighteent and nineteenth centuries is slowe when it has to deal with a large mas of illiterates. When the world is fas shrinking with instant communica tions, rapid travel and an interdependent society we still have th caste system alive, still deny even th basic rights to women and benignl and passively accept all deficiencie imposed by people on people. I am not for a moment suggesting tha with total literacy all problems wil be instantaneously solved. Histor tells a different tale: in spite o Abraham Lincon and the impressive records of education, it ha taken the United States of Americ many decades to reduce racial discrimination. But without educatio and its resultant development in the American South, the end of racial discrimination would have been impossible.

I therefore suggest we start at the

very beginning of trying to educate all. This is no easy task. The number runs to hundreds of millions. Even for providing basic education, the infrastructure required can be mind boggling. The only way is to start and to start with all means available to us. They can be community schools, adult education centres and night schools even. But the information revolution that is engulfing the world provides many new possibilities. Schools can be organised through local radio and TV networks that can be relaying lessons from the district headquarters or even from the state capital. These lessons do not have to be one-way; computers can provide opportunities for participation. I am not talking of esoteric things from science fiction. These exist today in other countries and even in our defence for military communication. The strangeness of these technologies should not discourage us. Centuries back books and printing presses were also new to us and India by not going for these technologies when Europe invented them missed many opportunities. We should not do this a second time. We must use all the opportunities available and specially those that have the potential for educating a large number living in far-off locations. If I am asked for a national mission, I would readily rate this as the most urgent, second only to birth- control.

Barring a few who will opt for higher education, many of you will be entering the job market. Some of you would have started this search already. As it happens with any statistical phenomenon, some of you will get jobs readily while others may have to wait for some time and in some cases even years. This is a natural phenomenon common to many countries and therefore should not cause much consternation. However, in our country this problem gets complicated for many reasons. First of course is the availability of openings and the number of applicants. This ratio is very large mainly because of limited opportunities. The opportunities are limited, if I may say so, due to our own tunnel vision. The only jobs acceptable to many are government jobs or quasi-government ones and there is a common desire to seek white- collared assignments near to the place of domicile. There is a singular absence of adventure, romance and heroism in our seeking a career. Why should this be so? There is an excellent inverse correlation between the state of development of a country and the number of government jobs. The more developed is the country, fewer are the government jobs. Often they are not even in demand by job seekers! This may be because of professional challenges and satisfaction unavailable in government jobs; or, can even be due to one wanting to be one's own master and not be a mere cog in the wheel. In our country the government is the largest employer and we therefore automatically look to it for help and are afraid to seek jobs outside. Truth to tell, readymade jobs are also not many outside unless we are willing to change. How many of us, for instance, would like to be teachers or doctors in villages or even run small workshops in distant off-the-beaten-track locales. Like our youngsters abdicating their responsibilities to elders we readily abdicate our finding a right vocation for us to the government and wait. We must get out of this malady and take what is available in the first place. We read tales of inventor Edison or the Sarvodaya leader Jayaprakash Narayan doing difficult manual work as students The tales are remembered and not the truth they preach. Essentially this is a culture problem and can only be overcome by deliberate steps of wanting to work and earn and not depend on either the government or the parents to find the right career. This step is not so radical as it sounds: remember the Englishmen who came to the small villages and towns in far-off places to teach, preach and to sell. With this spirit, it is possible to find jobs and more than jobs, reduce the uncontrolled migration to metropolitan areas. Facilities and conveniences in small towns and villages grow only with such migrations. The other option of depleted countryside with overflowing, congested and breaking-in-seams metropolices is difficult even to think let alone accept.

There is another issue I want to raise, but only briefly. This concerns the present happenings in our nation. I use the term nation deliberately instead of country. For a nation is a country with a common heritage and aspiration. The problems we have today concern our nation and solutions must be found on that plane. Already there are a few predicting the emergence of anarchy, internal wars and even the collapse of the nation. unfortunately, they have not learnt their lessons from history, nor have they understood the social evolution of a nation. The founder of the Italian nation is reported to have said that having united Italy into a single country, he must now make Italians! This is true for our country as well. All of us must become Indians. This takes time in any country and we cannot be exceptions. The reverberations of the French Revolution were felt for more than one hundred years and the United States of America took also a long time to cement her people into a national entity. The recent happenings in the Soviet Union show that seventy years even under a strict regimentation is inadequate to wipe out all past fears and prejudices. We must all try hard to overcome our present difficulties with discipline, tolerance and a sense of fairplay. Beyond a wholesome discipline, we must also learn to be gentle with ourselves as we are as much a children of the universe as others are and are therefore entitled to go through experiences without tormenting ourselves.

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
April 19-20, 1991	Fourth Annual Conference of All India Association for Educational Research	To deliberate upon issues on the theme 'Education for All'	Rashtriya Shikshan Samiti Trust, Bangalore	Dr(Miss) T.K. Jayalakshmi, Principal, R.V. Teachers College, Jayanagar, Bangalore-560 011
July 21-26, 1991	Seventh International Meeting of University Administrators	Themes to be discussed are: (i) Standards of Professionalism in University Administration; (ii) International Cooperation; and (iii) The Entrepreneurial University	Conference of Registrars and Secretaries and Conference of University Administrators of the United Kingdom.	Dr. F.C. Verschoor, Chairman, Organising Committee, Congress Bureau, University of Twent P.O. Box 217, 7500 AE Enschede, The Netherlands
Sept. 16-20, 1991	Regional Symposium on Educational Testing	Theme : Reforms and enhancements in educational testing system, test contents and formats in a country (or region)	The National Education Examination Authority (NEEA), People's Republic of China	Mr. Yang, Xuewai, Director, National Education Examinations Authority (NEEA), State Education Commission, 30 Yu Quan Road, Beijing 100039, The People's Republic of China
Sept. 17-18, 1991	Fourth Annual Conference of the Asian Association of Open Universities	To explore the need, desirability,practicability and relevance of face to face components in Distance Education	The Open University of Sri Lanka, Colombo, Sri Lanka	Ms C Suriyapperuma, Organising Secretary, AAOU Conference, Open University, Box 21, Nugegoda, Sri Lanka
December 14-16, 1991	International Conference on Man & Environment	To discuss issues concerning the future of man and preservation of the unique planet earth	Motilal Nehru Regional Engineering College, Allahabad	Dr R.K. Srivastava, Organising Secretary ICOMEN - 91, Department of Civil Engineering, Motilal Nehru Regional Engineering College, Allahabad - 211004

CAMPUS NEWS

Improving Education in Maharashtra

Nearly hundred industrialists, vice-chancellors, and scientists discussed the prospect of interaction between them to raise the standard of education in the State of Maharashtra. The meeting was called by Governor, C. Subramaniam, in his capacity as the Chancellor of Universities.

Mr. Subramaniam referred to the science and technology plans of the National Committee on Science and Technology set up during his tenure as the union minister of planning, science and technology.

"One of the main recommendations of the Plan was to promote cooperation between universities, research institutions and industry so as to establish effective linkages between them to tap the enormous reservoir of knowledge, skill and inventiveness among the scientific and technological intelligentsia." he said.

The participants suggested interaction between the IITs and other institutions and industries.

While a National City Hostel for the metropolis was suggested, the need for Industry to adopt institutions was also stressed.

"Industry must change its concept of charity as quality is a function of resources," Suma Chitnis, Vice Chancellor, SNDT University, said. Leading industrialist, Ramakrishna Bajaj, said the industries were willing to give sponsorship but "there should be some organised efforts". He also stressed the need to give priority to merit over seniority.

The participants suggested the Maharashtra Government to start a department of science and technology to interact with various bodies including the universities.

It was felt that research should also be carried out at the college level and not merely at the university level.

The idea that political parties should remain away from the college and the university elections was mooted by the Governor when the Finance and Planning Minister, Ramarao Adik, raised his concern over the increasing politics in colleges.

Flexibility of rules and regulations was another aspect touched upon. The stress was on producing results. "Any creative and original thinking is out of question at present because of Acts, Rules and mental blocks," Dr. Viren Shah, BJP leader and industrialist, said.

So far as the four agricultural universities in the State were concerned, Dr. P.W. Amin, Vice Chancellor, Punjabrao Agricultural University, pointed out that they had two major lacunae.

"Firstly, the selection procedure is cumbersome, and secondly, even the existing talent does not get enough exposure."

AIIMS Convocation

"The first and original task of the doctor...is to teach," the President, Mr R. Venkataraman, stated, while addressing the 23rd convocation of the All India Institute of Medical Sciences in New Delhi.

Tracing the origin of the the word "doctor" the origin of AIIMS, and the history of health care in India, Mr Venkataraman outlined the broader aspects that are the focus of medicare. "Even though medical research has progressed a great deal, new challenges come up all the time... health care is an ocean where the oarsmen cannot rest." The kind of education imparted to the student of medicine has little bearing to the gigantic health problems faced by the people, the President said. A doctor must understand the patient and likewise the society, before he begins to tackle the task. The President hoped that the distinguished professional environment of AIIMS would help to impart a qualitative difference in the professional work of the undergraduates.

The Prime Minister, Mr Chandra Shekhar, congratulated the graduates who had entered the service of society. Belonging to a privileged section, the young doctors and nurses would now serve not their own interests but of others. No other profession was like this one, he stated.

Addressing the gathering, the Director of AIIMS, Dr Kacker, spoke of the innovation in medical education. He spoke of the need for community orientation and said health for all was the aim to work for. In all 280 degrees for MBBS, DM, MD, MS, M.Ch., Ph.D. and various paramedical courses were awarded at the convocation.

Seminar on Eradication of Illiteracy

Prof. D. Subba Rao of the Department of Adult Education, Andhra University, said that the approach being adopted for the eradication of illiteracy should be changed and a new strategy should be adopted including the change of syllabus to make the programme more meaningful.

Speaking at the seminar organised by the Adult Education Department at the S.V. University Collge, he opined that it would be better if the universities and colleges close down at least for six months and the staff and the students should be asked to educate the illiterate masses.

He also stressed the need to involve the people at local level for liberating the people from ignorance, superstitions and illiteracy,. He called upon the adult education volunteers to go to the villages and teach the rural folk, instead of confining themselves to the classrooms.

TIET Celebrates National Science Day

National Science Day was celebrated at Thapar Institute of Engineering and Technology (TIET), Patiala on Febuary 28, 1991. It was organised by the School of Basic and Applied Sciences of the Institute.

Padmabhushan Shri C.V. Sundaram, former Director, Indian Gandhi Centre for Atomic Research, Kalpakam and Senior Consultant, Nuclear Fuel Complex, Hyderabad was the Chief Guest. In his inaugural lecture on 'Nuclear Power for India', he highlighted the potential of nuclear energy as an alternative to the current energy crisis.

Professor Dr. T.R. Anantharaman, Director, TIET, presided over the function.

Course on Neural Networks

Dayalbagh Educational Institute has introduced a course on "Neural Networks" in the Department of Physics as a part of its M.Sc. Physics (Electronic Sciences) programme. The course will be floated with effect from the current semester. The course covers fundamental notions of parallel distributed processing systems, classic neural network models, neural based circuit implementations and how analog VLSI could be used to fabricate such circuits in practice. The course is research oriented and incorporates current research discussions as a part of its coverage.

News From Agril. Universities

Biotechnology Endowment at Farm Varsity

The Inaugural lecture of the newly created Madras Fertilizers Endowment of Biotechnology was delivered by Prof. John Bennett, Senior Scientist, International Centre for Genetic Engineering and Biotechnology, New Delhi, at Tamil Nadu G.D. Naidu Agricultural University (TNGDNAU), Coimbatore recently. Prof. Bennett observed that the biotechnology had opened new avenues in plant research and had got much potentiality to explore with. He said that massive variability in crop production was due to various stresses in plants and emphasised on sustainability in production. Transgenic approach was being increasingly used in herbicide tolerance, virus resistance, Insect resistance and heavy metal ion tolerance. Transgenic rice plants technology was rapidly developing in our country.

Dr.S. Jayaraj, Vice-Chancellor of TNGDNAU, who presided, placed on record the gratitude to Madras Fertilizers, the Research and Development based organisation, for creating the Endowment of Biotechnology in the University. He said that realising the importance of biotechnology, TNGDNAU had started lot of courses and research programmes. In order to expose the modern biotechnology methods and procedures to the undergraduates in Agriculture, Horticulture, Agricultural Engineering and Forestry, exclusive biotechnology courses had been introduced in the curriculum. Biotechnology formed important component in commercial Agricultural and Horticultural courses.

The Vice-Chancellor evinced keen interest in collaborative biotechnology teaching, training and research programmes between the TNGDNAU and International Centre for Genetic Engineering and Biotechnology, New Delhi.

Shri K.V. Menon, General Manager, Madras Fertilizers, Madras, in his special address brought out the stage of increased fertiliser consumption over a period of time. Through biofertilisers and organic manures, the renewable and cheaper sources of plant nutrients, the fertiliser prescription schedule could be supplemented. He complimented TNGDNAU for its pioneering efforts in biotechnology research and integrating it in agricultural science.

Dr. A. Narayanan, Registrar, TNGDNAU, in his introductory address said that Ph.D. programme in Biotechnology will be started in the University in the current academic year. He highlighted the growth and development of biotechnology in the University.

HAU Kisan Mela

Chaudhary Devi Lal, the Deputy Prime Minister of India inaugurated the annual kisan mela organised recently by the Haryana-Agricultural University Hisar. 22000 farmers from Haryana and adjoining states visited the Mela. The visiting farmers were apprised of the latest methods of sowing, hoeing, soil reclamation, judicious use of water and fertilizer, plant protection measures and proper handling of farm machinery and implements of different crops. The latest technology applied in the growing of rabi crop was also explained to the visiting farmers. Seeds worth Rs 18 lacs were also sold to the farmers. From the agro-industrial exhibition, organised at the mela venue, farmers and farm women purchased the inputs and implements of farm and domestic use.

On this occasion, all departments of the University had displayed their achievements. The stall of the College of Home Science was the main attraction for the farm women from where they learnt the time, labour and energy saving techniques from the women scientists. Here demonstration on home scale fruits and vegetables were also given. More than 700 samples of soil and water were tested at the mela venue. According to the Director of Extension Education, Dr. M.S. Kairon, Crop competition organized on the occasion proved to be a great attraction where thousands of farmers displayed the samples of their rabi crops. Dr. Amrit Lal Chaudhry, Vice-Chancellor, gave away prizes to the farmers whose samples were adjudged best. Addressing the farmers on the occasion, Dr. Chaudhry assured full cooperation of the university scientists in the solution of their farm problems. Dr. Chaudhry disclosed that for the popularisation of fruits and vegetables and greenery in Haryana, nursery plants would be provided by the university to the farmers on concessional rates.

On this occasion, the Dy. Prime Minister inaugurated the Blood Protista building of the College of Veterinary Sciences and a training laboratory which have been constructed at the cost of Rs. 25 lacs.

Russian Scientists Visit HAU

Two Russian scientists Prof. Georgiy F.Koromyslov, Director and Prof. Fedorov J.U, N, Head, Laboratory of Immunology and Biotechnology, All Union Institute of Experimental Veterinary Medicine, Moscow visited the Haryana Agricultural University on March 14 and 15 under Indo-USSR collaboration programme. The visiting scientists held detailed discussions with the HAU veterinarians on various research activities going on in the constituent departments of the College of Veterinary Sciences of the university. In view of the excellent work being done by the College of Veterinary Sciences of the university, the Department of Veterinary Public Health and Epidemiology has already been selected to start a coordinating course on Zoonotic diseases under Indo-USSR collaboration. According to Dr. S.K.Mahipal, Head of the Department, the visiting scientists in a meeting with the Vice-Chancellor, Dr. A.L. Chaudhry expressed their desire to have collaboration on the research projects of brucellosis, camphylobacteriosis and theileriosis. To increase the efficiency of the scientists, they emphasised that apart from mutual visits of scientists of both countries, short duration technique oriented programmes, seminars and joint workshops should also be organised.

News from UGC

Countrywide Classroom Programme

Between 15th April to 21st April, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

15.4.91

"When Sound Becomes Fury"

"Basic Principles of Accountancy - I"

"Humus Culture"

16.4.91

"Chemical Clock Reactions - II"

"Know Your Library"

"Medicine's New Vision - III : Magnetic Resonance Imaging"

17.4.91

No Telecast

18.4.91

"The Laser France"

"Folklore and Folkloristics - III"

"On Poetry and Translation - III : Literary Translation "

19.4.91

"Fibonacci Numbers - II "

"Psychiatric Disorders - VI : Biological Therapy "

"Eye and Light Pollution "

20.4.91

"Understanding Cinema -XIV : Scene Analysis - I "

"Daughters of Eve - II "

21.4.91

No Telecast

2nd Tranmission

4.00 p.m. to 5.00 p.m.

15.4.91

"Little Knowledge is a Dangerous Thing "

"Coping With Trade Unions "

"Scientific Storage of Foodgrains "

16.4.91

"Plastics & Polymers in Daily Life - I "

"Media in Third World - IV : Malaysia "

"Tripal Dose "

17.4.91

No Telecast

18.4.91

"Programming in PASCAL Language - III "

"A New Way To See : Scanning Tunneling Microscopy "

"Language a Golden Key "

19.4.91

"Life Cycle of Stars "

"Psychiatric Disorders - I : Psychosis "

"From the Depth of the Ocean U.S.S.R."

20.4.91

"Understanding Cinema IX : Colour "

"Odissi : The Art of Expression - III "

21.4.91

No Telecast

News from Abroad

Jefferson Fellowship Program 1992

The East-West Institute of Culture and Communication, Honolulu, Hawaii, has invited applications from senior Indian news editors, writers and broadcasters for a Jefferson Fellowship.

The program is designed to cooperate with news media organizations in their professional staff development by providing first hand experience in Asian-Pacific-American affairs, primarily for news editors and for radio/television producers and news analysts—the "gate-keepers" who determine on a daily basis what gets into print and on the air. Editorial writers, business editors and journalists in other specialized areas also will be considered. Priority will go to nominees whose careers would be advanced by personal exposure to news issues that link the United States and Asian/Pacific countries in a web of growing interdependence.

Fourteen news editors, writers and broadcasters from the United States and Asian/Pacific countries will be awarded Jefferson Fellowships by the East-West Center for study and travel in the spring of 1992. The two-month program begins on April 5, 1992, for six Americans and eight men and women from the People's Republic of China, Japan, India, Korea, Bangladesh, New Zealand, Singapore and the Pacific Islands.

After four weeks of intensive study at the East-West Center, the Americans will go to Asian/Pacific countries for reporting and orientation experiences while their Asian/Pacific counterparts travel on the U.S. mainland for approximately four weeks. The program ends on June 5 after the Fellows regroup at the East-West Center for final discussions and evaluation of their cross-cultural experiences.

Priority in selection of the Jefferson Fellows is given to those with editing and news management responsibilities in newspaper, magazine and broadcasting organizations. Candidates must be nominated by their employing organizations, which agree to cost-sharing. Last date for submission of applications is **31 July 1991.**

Further details can be had from the Director, The United States Educational Foundation in India, "Fulbright House", 12 Hailey Road, New Delhi - 110001.

Non Creativity in Higher Education

I refer to the article 'Conference of Executive Heads of Commonwealth Universities' by Prof P. R. Dubhashi (*University News*, March 11, 1991), and particularly Prof Gore's remarks quoted by Prof Dubhashi in his article, about the present state of teaching in colleges in our country. Prof Gore is reported to have said at one place in his paper: 'Students learn texbooks and not the subject and the teachers are expected to function primarily as interpreters of what the textbooks contain. Even this gets reduced to dictation of notes.... the process of education has become inflexible and non-creative both for the students and the teachers. The college years have become a way for prolonging years of adolescence and dependence on parents in a culturally sanctioned period of idleness'.

This is very correct. The process of higher education in our colleges has become almost stereotyped, often spilling into drudgery. It seems it lacks life. It is interesting (and of course ruefully) to see how young men and women flooding the galleries of our colleges come and go passively. And this has almost become an everyday routine. Majority of them come to college without the spirit of inquisition, inquiry or debate. And when the teacher finds a dumb crowd before him, almost everyday, he too gradually takes it for granted that there is nothing like inquisitiveness in higher education. This particularly is to be found in rural colleges of the country.

Consequently it becomes quite natural for the teacher to accept the conditions prevailing in the classroom as they are. A fresh lecturer who comes with some ambition and dreams of change both in his pupils as well as himself, becomes with the passing of time, a routine attendant of his class.

This lack of inquiry on the part of students by and large has probably given rise to notes giving or dictation. For one routine acceptance of a fixed condition leads to another (and lower than the first) fixed condition of routine activity. One lifelessness leads to another lifelessness. This is psychological, and somewhat inherent also in the system of teaching. And unless the teacher shakes this off periodically and instil freshness in his job, this dictation business continues and becomes a fixed habit.

Secondly, the forces outside the campus (especially political, economic and social) are so powerful that they undermine (or atleast try to do that) what changes the teacher intends to bring about. College teaching deals with higher realms of thought, and a teacher who goes out with a definite purpose in his academic pursuit is bound to come in conflict with the prevailing political, economic and social system. Teaching—whatever may be the area—aims at some decent things of life. And the teacher who constantly aspires for some values useful to the society as a whole (and this includes student community too), is bound to face political, economic and social assaults.

Here, the teacher comes at a crucial point. He can (or has to) either fight it out or he has to submit his aspirations and dreams to the outside invading forces. Few teachers carry on or achieve breakthrough. Interestingly, his own colleagues rather keep indifferent or passive in his crusade. Some of them even advise him to be 'practical'.

This seems to be one major root cause of non-creativity in the pursuit of teaching. For, creativity presupposes freedom, a courage of dissent and disagreement not only on the part of the teacher himself and with himself, but also with all accepted norms and practices. To rectify this as far as possible the teacher should have (i) a full scope of academic freedom, (ii) a good salary so as to enable him to live an upright and decent life, and (iii) a periodical appreciation or recognition of his work, even his day to day work, by society. Some years ago International Labour Organization (ILO)did a survey of high school teachers of schools all over the world wherein it was found that lack of appreciation of teacher's work causes disappointment and stress in his work. This applies more or less to college teachers also.

Yours truly,

N.D. Umrigar
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CLARIFICATION TO Advt. No.-4/Rectt/1990-91/TA

1. Lecturers in Education and Distance Education:

Other requirements mentioned for these posts in the above advertisement should read as follows:

a) Candidates who possess IGNOU diploma in Distance Education may get preference for these posts.

b) The essential qualification for Lecturers in Education is a Master's degree in Education, for Lecturers in Distance Education, in the areas of Staff Development and Systematic Research, candidates with Master's degree in any subject would be eligible.

2) Candidates who responded to the University's advertisement in October, 1988 for the posts of Lecturers in Management Studies and Sociology may send fresh applications if they fulfil the qualifications and other conditions of eligibility now prescribed.

REGISTRAR

AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The Library has also developed Bibliography of Doctoral Dissertation as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in bibliography. Such Universities as are not sending us regular information in respect of Doctoral Theses accepted and research scholars enrolled are welcome to make use of these columns.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

RESEARCH IN PROGRESS

A list of Research Scholars registered for Doctoral Degrees in Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Sahu, Hari Krishna. **Some problems related to fixed point theory.** HS Gour. Dr R K Jain, Reader, Department of Mathematics, Doctor Harisingh Gour Vishwavidyalaya, Sagar.

Physics

1. Chowdhry, Ranjana. **Plasma stability.** Delhi. Dr R K Nayyar, Department of Physics, University of Delhi, Delhi.

2. Chaudhary, Sangeeta. **Study of Josephson effect in thin/thick films of high TC superconductors.** Delhi. Prof P N Dheer, Department of Physics, University of Delhi, Delhi and Dr A K Gupta, Department of Physics, University of Delhi, Delhi.

3. Gupta, Vinay. **Fabrication and characterization of piezoelectric thin film.** Delhi. Dr A Man Singh, Department of Physics, University of Delhi, Delhi.

4. Preeti Bala. **Electrooptic materials.** Delhi. Dr A M Singh, Department of Physics, University of Delhi, Delhi.

5. Rekhi, Sandeep. **Crystal growth and polytypism in crystals.** Delhi. Prof G C Trigunayat, Department of Physics, University of Delhi, Delhi and Dr G L Bhalla, Department of Physics, University of Delhi, Delhi

Chemistry

1. Sehgal, Sabita. **Studies on polymer blends and composites.** Delhi. Prof R Chandra, Department of Chemistry, Delhi College of Engineering, Delhi.

2. Sunil Kumar. **Flavanoids organic chemistry.** Delhi. Dr D K Bhardwaj, Department of Chemistry, University of Delhi, Delhi.

BIOLOGICAL SCIENCES

Botany

1. Kapoor, Sangeeta. **Physiology of growth and development in plants.** Delhi. Dr S C Bhatla, Department of Botany, University of Delhi, Delhi.

2. Malik ,Geetika. **Hormonal regulation of differentiation in plants.** Delhi. Dr S C Bhatla, Department of Botany, University of Delhi, Delhi.

3. Manjari Rao, Prativa. **Response of maturing cotyledons of cluster bean,** Cyamopsis tetragonoloba **to different environmental stress factors.** Sambalpur. Dr (Mrs) Basanti Biswal, Lecturer, Department of Life Science, Sambalpur University, Jyoti Vihar, Burla.

4. Sunita Kumari. **Reproductive biology and phycocolloid extraction from a few members of Dictyotales (Phaeophyceae) from Port Okha.** Delhi. Dr S B Babbar, Department of Botany, University of Delhi, Delhi.

Zoology

1. Gupta, Seema. **Characterisation of vivax malaria proteins in human and anopheles.** Delhi. Dr S B Sehgal, Department of Zoology, University of Delhi, Delhi and Dr Y B Sharma, Department of Zoology, University of Delhi, Delhi.

Medical Sciences

1. Bhag Chand. **Novel drug delivery system : Development and rational approach.** Delhi. Prof A Kar, Department of Pharmacy, College of Pharmacy, Pushp Vihar, New Delhi.

2. Verma, Rajni. **Pro drug approach in improving drug delivery.** Delhi. Dr A Kar, Department of Pharmacy, College of Pharmacy, Pushp Vihar, New Delhi and Dr J L Kaul, Department of Pharmacy,College of Pharmacy, Pushp Vihar, New Delhi and Dr M S Y Khan, College of Pharmacy, Pushp Vihar, New Delhi.

3. Yadav, Sumitra. **Development of formulations of interactive drug combinations.** Delhi. Dr A Kar, Department of Pharmacy, College of Pharmacy, Pushp Vihar, New Delhi and Dr (Mrs) R Dubey, College of Pharmacy, Pushp Vihar, New Delhi.

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Dhar, Hrishikesh. **Some problems in boundary layer.** Delhi.

2. Kripalini, K S. **Studies on semigroup compactifications of topological semigroups.** CUST. Dr T Thirivikraman, Prof and Head, Department of Mathematics and Statistics, Cochin University of Science and Technology, Cochin.

3. Sinha, Deba Prasad. **A study of Markusevic decompositions of Banach spaces.** Delhi.

4. Talapatra, Ramendranath. **Non equilibrium thermodynamic and kinetic approaches to some biological processes.** Calcutta.

Statistics

1. Gogoi, Bipin. **Some studies on non-parametric tests in experimental design.** Dibrugarh. Prof S Kakoty, Department of Statistics, Dibrugarh University, Dibrugarh.

2. Kushwaha, K S. **On use of auxiliary information in sample surveys.** ISM. Dr L N Upadhyay, Indian School of Mines, Dhanbad and Dr H P Singh, Jawaharlal Nehru Krishi Viswa Vidyalaya, Jabalpur.

3. Misra, Banwari Lal. **Some contributions to the construction of balanced and partially balanced incomplete block designs.** Devi Ahilya. Dr Bhagwan Das, Department of Statistics, Devi Ahilya Vishwavidyalaya, Indore.

4. Palaniswamy, KM. **Design of statistical (field) experiments and forecast in agriculture with special reference to rice.** Calicut. Dr K Kumaran Kutty, Department of Statistics, University of Calicut, Calicut.

Physics

1. Bajaj, Vijay Kumar. **Acceleration and heating of plasma particles by plasma instabilities, Auroral Acceleration Region.** H S Gour, Dr M S Tiwari, Department of Physics, Dr Harisingh Gour Vishwavidyalaya, Sagar.

2. Deshpande, Sunil D. **X-ray absorption spectroscopic studies of some Al-TM alloys.** Nagpur. Dr C Mande, Department of Physics, Goa University, Goa and Dr G G Sahasrdhe, Department of Physics, Nagpur University, Nagpur.

3. Ghosh, Pradip Kumar. **Stochastic quantization and some aspects of super symmetry.** Calcutta.

4. Ghosh, Sutapa. **An X-ray crystallographic study on the structure and interactions of a few pharmaceutically important molecules.** Calcutta.

5. Gupta, Gopal Das. **Some investigations in X-ray spectra.** Vikram. Dr B D Srivastava, Prof, Department of Physics, Vikram University, Ujjain.

6. Gupta, Krishna Kumar. **Relativistic aspects of nullplane Bethe-Salpeter dynamics for unequal mass quarks: Application to mass spectra, leptonic decay constants and weak non-leptonic decays.** Delhi.

7. Jacob Mathew, M. **Structural studies of some natural minerals using Mossbauer technique.** Devi Ahilya. Dr A L Sharma, Department of Physics, Devi Ahilya Vishwavidyalaya, Indore.

8. Khan, Abdul Samad. **Study of diffraction gratings and their salient features.** HS Gour. Prof R S Kasana, Department of Physics, Doctor Harisingh Gour Vishwavidyalaya, Sagar.

9. Sarma, Khagen. **Lattice dynamical investigation of harmonic and anharmonic properties of some cubic crystals.** Dibrugarh. Dr A Rajput, Reader, Department of Physics, Dibrugarh University, Dibrugarh.

10. Shishodia, Prem Kumar. **Growth and characterization of cadmium sulphide and zinc selenide thin films.** Delhi.

Chemistry

1. Balu, M P. **Synthetic investigation on polarized ketene dithio-acetals: Novel methods for the synthesis of carbocycles and heterocycles.** NEHU. Dr H Junjappa, Department of Chemistry, North Eastern Hill University, Shillong.

2. Daisamma Jacob, P. **Studies on annealing of chemical radiation damage and the influence of irradiation on the thermal decomposition of some inorganic salts.** Calicut. Dr S M K Nair, Department of Chemistry, University of Calicut, Calicut.

3. Dave, Mangala. **Electrometric studies on some rare metals and their complexations.** HS Gour. Dr S C Lavale, Asstt Prof, Department of Chemistry, Doctor Harisingh Gour Vishwavidyalaya, Sagar.

4. Gupta, Charu. **Synthesis of some heterocyclic compounds as potential antifungal and antibacterial agents.** Delhi.

5. Harwalkar, G S. **Synthetic studies in benzofurans.** Gulbarga.

6. Jain, Alka. **Studies on addition polymerization.** Durgawati. Dr U D N Bajpai, Department of Chemistry, Rani Durgawati Vish-

vavidyalaya, Jabalpur

7. Jain, Arun Kumar. **Chemical investigation of some Indian medicinal plants.** HS Gour. Dr S K Shrivastava, Department of Chemistry, Doctor Harisingh Gour Vishwavidyalaya, Sagar.

8. Jain, Sunanda. **Mixed ligand complexes of transition metals with amines and other selected 'N' containing ligand.** HS Gour. Dr O P Shrivastava, Department of Chemistry, Doctor Harisingh Gour Vishwavidyalaya, Sagar.

9. Meena Devi. **Studies on some compounds of transition metals with N-donor ligands.** Dibrugarh. Dr T Bora, Reader, Department of Chemistry, Dibrugarh University, Dibrugarh.

10. Mondhe, Onkar Santoshrao. **Chemical studies of some components of seeds and polymerisation studies of fatty oils.** HS Gour. Dr J T Rao, Dapartment of Chemistry, Doctor Harisingh Gour Vishwavidyalaya, Sagar.

11. Nand Mohan. **Chemistry of guaianolides and their biological activity.** PAU.

12. Patel, Maheshchandra Balvantrai. **Synthesis and evaluation of photochromic dyes and pigments.** Patel. Prof V S Patel, Head, Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar and Dr (Miss) R G Patel, Reader, Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar.

13. Saikia, Beenapani. **Study of the influence of steric and electronic factors on the formation and stability of hydrogen bonding.** Dibrugarh. Prof I Haque, Department of Chemistry, Dibrugarh University, Dibrugarh and Dr I Suryanarayana, Scientist, Analytical Chemistry Division, Regional Research Laboratory, Jorhat.

14. Shadangi, Santosh Kumar. **Degradation of pesticide chemicals.** Berhampur. Dr R K Panda, Reader, Department of Chemistry, Berhampur University, Berhampur and Dr C Misra, Prof, Department of Soil Physics, Orissa University of Agriculture and Technology, Bhubaneswar.

15. Singhal, Gireesh Mohan. **New synthetic methods.** Dibrugarh. Dr R P Sharma, Asstt Director, Regional Research Laboratory, Jorhat and Prof K K Das, Department of Chemistry, Dibrugarh University, Dibrugarh.

16. Tiwari, Sharad Kumar. **Activation of carbonyl sulphide, carbon disulphide and carbon dioxide with transition metal complexes.** Devi Ahilya. Dr K K Pandey, Department of Chemistry, Devi Ahilya Vishwavidyalaya, Indore.

17. Varghese, T Elizabeth Mini. **Nitrogen - sulphur heterocycle erivatives as synthons for 1, 3, 5 - triazine thiones and dithiones.** Kerala. Dr C P Joshua, Prof, Department of Chemistry, University f Kerala, Thiruvananthapuram.

Earth Sciences

1. Chadha, Rajender Kumar. **Studies on reservoir induced seismicity for some cases in Peninsular India.** ISM. Prof R K Verma; rof D Mukhopadhyaya and Dr B K Rastogi, National Geophysical esearch Institute, Calcutta.

2. Chandrashekarappa, K N. **Morphometric analysis of ethravathi River Basin, Karnataka, India.** Mangalore. Dr T R reedhara Murthy, Reader, Department of Marine Geology, Mangalore University, Mangalagangotri.

3. George, A V. **Structure and geochemistry of the high-grade etamorphic terrain around Polur, North Arcot District, Tamil adu, South India.** Kerala. Dr P K Rajendran, Prof and Head, epartment of Geology, University of Kerala, Kariavattom.

4. Krishna Rao, Bodavula. **Holocene sediments of the Western Krishna Delta, East Coast of India.** Andhra.

Engineering & Technology

1. Anand, V. **Laboratory studies on crushing characteristics of coking coal.** ISM. Shri S Bhattacharya, Department of Mineral Engineering, Indian School of Mines, Dhanbad.

2. Bhattacharyya, Swapan. **Synthesis of optimal computer network topologies: Some theoretical studies.** Calcutta.

3. Maiti, Kedarnath. **Effect of substitution of feldspar and quartz by glass ceramics and sillimanite sand in porcelain composition.** Calcutta.

4. Sharma, Suman Kumar. **Growth kinetics and electrical properties of thin oxide layers on silicon.** Delhi.

5. Shivakumar, C V. **Identification and characterization of filarial antigens.** Anna.

UNIVERSITY NEWS

A Weekly Chronicle of Higher Education

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Advertisement No. 2/1991

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QUALIFICATIONS:

As laid down in the Lucknow University First Statutes.

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Prescribed application forms can be obtained, free of cost, by sending a self-addressed envelope size 23x10 cm. with postage stamps worth Rs.7/-, from the office of the Registrar. Last date for submission of applications, duly completed in all respects, with recent testimonials, publications etc. and a Bank Draft of Rs. 15/- drawn in favour of the Registrar, Lucknow University, payable at any Bank in Lucknow, is **May 2, 1991.** Applications without Bank Draft will not be accepted. Candidates who are in service should send their applications through proper channel. Application Forms to outstation candidates will be sent upto April 24, 1991. Canvassing will be disqualification.

J.P. Sinha
REGISTRAR

Birsa Agricultural University:Kanke:Ranchi.

Post Graduate Admission Notice

Applications for admission in M.V.Sc./Ph.D. programmes in different disciplines of the faculty of Veterinary Science & A.H. for the session 1990-91 are invited in the prescribed application forms (separate for each discipline), with which shall be enclosed other relevant details obtainable from the Asstt. Registrar, Faculty of Veterinary Science & A.H., Birsa Agricultural University, Kanke, Ranchi by sending a self-addressed stamped (Rs. 10/-) envelope (23 cm x 10 cm) alongwith an application fee of Rs. 10.00 (Rupees Two and Paise Fifty for SC/ST candidates) in the form of crossed postal order payable to the Comptroller, Birsa Agricultural University, Kanke, Ranchi latest by 22.4.91.

Those who applied for admission in Ph.D. programme July/August, 1990 need not apply again.

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University News

C.F.T.R.I. MYSORE

MONDAY, APRIL 15, 1991

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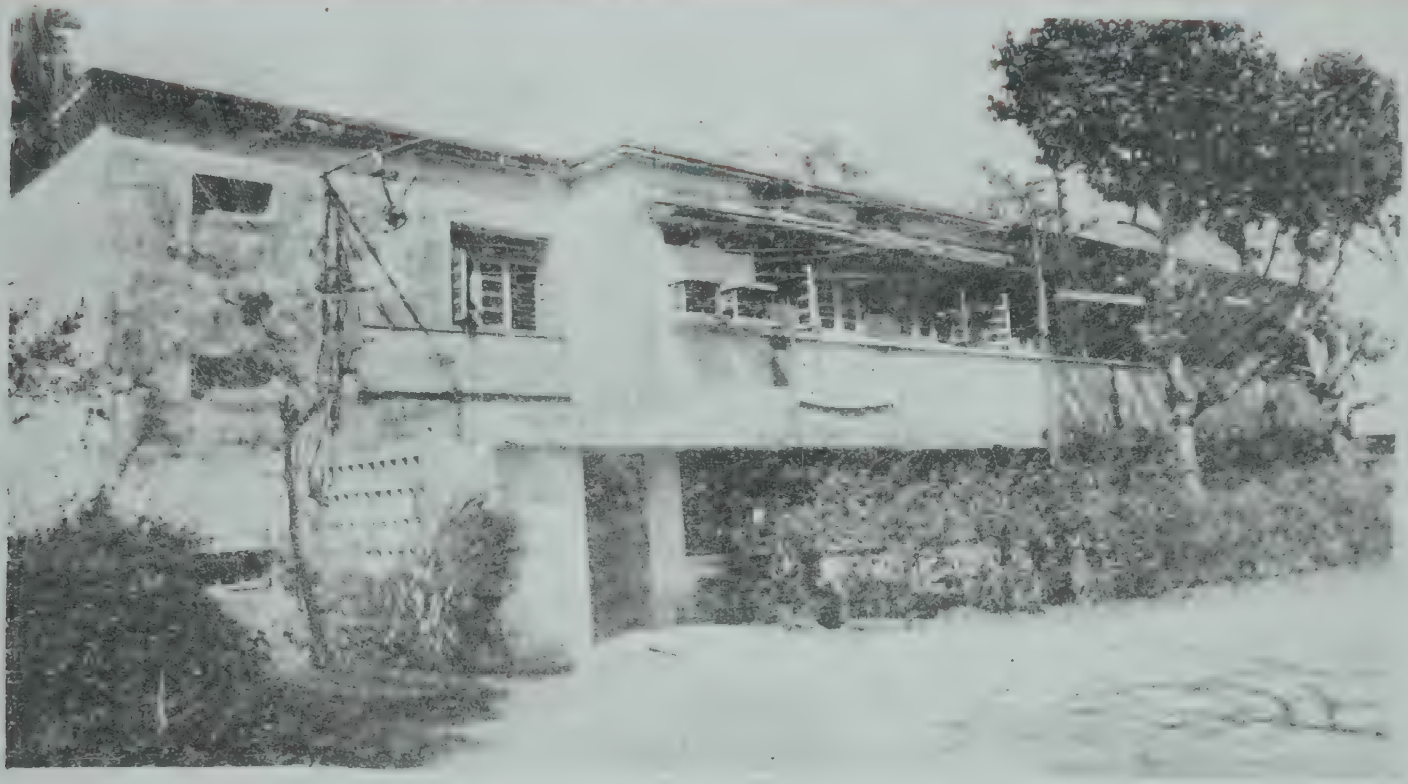

The existing Campus – Science Block

Tripura University, Agartala

The New Campus – Chemistry Department under construction

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UNIVERSITY NEWS

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Opinions expressed in the articles are those of the contributors and do not necessarily reflect the policies of the Association.

Editor :
SUTINDER SINGH

In Pursuit of Excellence
TRIPURA UNIVERSITY

Tripura University hosts the AIU Standing Committee and East Zone Vice Chancellors' meetings on April 19 and 20, 1991.

Genesis

Tripura is a small hilly state in North East India having an area of 10,486 sq. km. Its population of about 25 lakh consists of nearly 30 percent of scheduled tribes, 15 percent of scheduled castes and 55 percent of others. It was a Princely State until its merger in the Indian Union in 1949. Though during the rule of the Maharaja, number of educational institutions was extremely few, after the state's integration with the Indian Union, the number of educational institutions right from the primary upto the undergraduate level went up rapidly to cater to the needs of the fast growing population of the state on account of heavy influx of Bengali refugees from the then East Pakistan. The first Degree College was started in 1947 which was affiliated to the Calcutta University. By 1987 the number of colleges set up in the state went up to 11 degree and 5 professional colleges all of which were affiliated to the Calcutta University. In 1976 the Calcutta University started a Postgraduate Centre of its own at Agartala with seven postgraduate departments.

Tripura is surrounded by Bangladesh on three sides and its link with Assam through hilly terrain is a tenuous one. It is connected with Calcutta mainly by air. On account of communication difficulties, and of the special needs of the tribal and other backward classes of population, the state needed a university of its own for the development of higher education in the state. And with the approval of the University Grants Commission the government passed the Tripura University Act in 1987. Under that Act the Tripura University was formally inaugurated on 2 November 1987. On that date the Calcutta University Postgraduate Centre with its seven postgraduate departments, namely, Chemistry, Life Science, Mathematics, Analytical and Applied Economics, Modern History, Bengali and Sanskrit, merged in the new university while all the sixteen colleges – eleven degree colleges, one engineering college, one college of education, one music college, one college of physical education and one college of law – were brought under the purview of this university. Subsequently three more colleges started by the government including one college of Art and Craft have been given affiliation by the university.

Objectives

The main objectives of the university according to the Tripura University Act, 1987 are to disseminate and advance knowledge by providing instructional and research facilities in different branches of learning with special emphasis on integrated courses of humanities and science faculties in the educational programme of the university and to take appropriate measures for promoting interdisciplinary studies and research in the university. It will make special provision for studies in tribal life and culture.

Expansion Programmes

Towards achieving these objectives the university has addressed itself to the task of strengthening the existing postgraduate departments by recruiting teachers against the vacancies and by creating new posts and expanding the infrastructure. To meet the growing demand for postgraduate [illegible] facilities in more subjects, the policy of consolidation and expansion in phases is being followed. The visiting team appointed by the University Grants Commission, which visited the university in August 1988, suggested the opening of postgraduate departments of Commerce, English and Physics in the first phase. Accordingly the departments of Commerce and Physics have already been started and the department of English will be started in July this year. In the Eighth Plan period, Post-graduate departments of Political Science, Philosophy, Education, Geography and Psychology will be started as already approved by the UGC. Besides, diploma courses in Computer Applications and Horticulture will also be started in order to make the students fit for productive employment and to ensure productive use of resources of the state. One A-level computer centre is under installation. A proposal for starting of a University Science Instrumentation Centre is under consideration of the UGC.

Admission

At the undergraduate level the Calcutta University syllabuses and regulations are still being followed. Candidates who have passed their first degree examination under the system of 10 plus 2 plus 3 year honours course are eligible for admission to postgraduate courses. In three subjects, namely, Mathematics, Economics and Sanskrit, the university runs one-year bridge courses for pass graduates who become eligible for admission to their respective postgraduate courses only after their successful completion of the bridge courses. Admission is open to all irrespective of caste, sex, religion and domicile subject to reservation of seats for SC/ST candidates as follows :

For SC candidates 15%,

For ST candidates 29%.

In the matter of admission some preference is given to candidates who are permanent residents of Tripura. All the degree colleges in Tripura are managed by the government. For admission to different undergraduate courses reservation for SC/ST candidates is the same as above. Some restrictions are imposed on admission to honours courses on the basis of marks secured in the higher secondary examination. In some colleges selection tests are also organised. An ST/SC Cell for monitoring the implementation of reservation policy and organizing remedial courses for ST and SC students is being set up with UGC assistance.

Student Enrolment

Student enrolment as in 1990-91

Undergraduate - 10,800
Postgraduate - 600

Campus

At present the university teaching departments and offices and the Postgraduate students' hall are housed temporarily in the buildings provided by the state government in the town. The permanent university campus is being developed at Suryamaninagar which is about 10 km. south of Agartala. On that campus, construction of two buildings – one for the department of Chemistry and one for the department of life Sciences – is nearing completion. Plans for construction of buildings for the departments of Mathematics and Analytical and Applied Economics and for one women students' hostel have been submitted to the UGC for approval. For these buildings grants from UGC against matching share by the state government would be available.

Library

The Central Library has 20,403 volumes in its stock and it subscribes to 119 journals. The total number of users is 405 and the number of average daily users is 50. There is no instrument service or computer services. Schemes have been included in the Eighth Plan for these services.

Innovative Postgraduate Courses

The M.Sc. course in Life Sciences is still an integrated course covering Botany, Zoology and Physiology. Efforts are under way to offer separate Master's Degree in these subjects. Presently 5 special papers, namely, Ecology, Biosystematics, Plant Pathology, Biochemistry and Physiology of Nutrition and Entomology are being offered. The M.A. course in Analytical and Applied Economics has been so designed as to help the students to be able to relate their theoretical knowledge to the contemporary reality and also to think about solutions to the pressing economic problems of the day. Accordingly, guided project work by individual students on applied economic problems of the state forms a very important part of the curriculum. The department's future plan includes starting of a Centre for Tribal and Rural Development Studies. The syllabus in Chemistry has been revised in the light of the suggestions of the UGC visiting team to provide for studies in organic, inorganic and physical chemistry besides analytical chemistry. Project work of 50 marks has been included as a part of the practical curriculum. Recently the M.A. course in Modern History has been reorganized so as to include history of Tripura and other north-eastern states in the syllabus. The syllabus for Sanskrit has been restructured recently. It will help students to be familiar with Vedic literature, Indian Philosophy and the impact of Sanskrit literature on Bengali language and literature. The revised syllabus in Bengali lays emphasis on analytical and comparative language and literature. Therefore, it includes selections from world literature and fiction in other Indian languages and general characteristics of *Kak Bar*

(Tripura tribal language), Assamese and Oriya languages and literature. In the department of Commerce introduction of an elective group for specialization in Management and opening of one year diploma courses in Personnel Management, Marketing Management and Financial Management are contemplated. The department of Physics has already set up well equipped Solid State Physics, Electronics and Design teaching laboratories.

The university has adopted the Calcutta University Regulations for conducting Ph.D. programme in all the existing postgraduate departments. Till now 73 candidates pursuing research for Ph.D. degree have been registered by the university.

The university has instituted one chair, namely, the Jawaharlal Nehru Professor of Life Sciences.

Programmes of Applied Research

The teachers and students of this university have been responsive to the needs, problems and challenges faced by the people around them and also the country at large. They undertake field studies, surveys, evaluation of on-going plan schemes in the state etc. In all such activities close and effective linkages are maintained with the relevant government departments and other organizations.

Scientists in the department of Life Sciences have been carrying on applied researches on agricultural entomology, plant pathology, human nutrition with special reference to tribal people, ecology of soil and water organisms, bio-systematics and biological control of pests, and survey of insects, mites and wild animals in the north eastern region. In the department of Chemistry the main areas of research have been bacterial polysaccharides, use of microbial energy for metallurgical purposes and chemistry of anti-cancer and antileprosy plants etc. Department of Mathematics has introduced special papers in general topology, mathematical economics, operations research, etc. The department also takes part in adopting improved methods of teaching mathematics in schools. In the department of Analytical and Applied Economics, several evaluation studies and research projects having a direct bearing on the developmental problems and needs of the state and the region have been undertaken. The department of Modern History has taken up researches on the history of the tribal people of north eastern region, while the department of Bengali has been working on culture and literature of the tribal people of Tripura besides different aspects of Bengali literature.

Steps have been taken to organize teachers and students for participation in the functional literacy programme. The department of Analytical and Applied Economics collaborated with the Centre for Population Education, North Eastern Hill University to hold a seminar on population education for social education functionaries of Tripura in 1990 and another seminar on population education for community leaders of Mohanpur Block in Tripura in 1991.

Teachers' Place in the World Academia

There are 41 members of the faculty in the university. They are encouraged to participate in international, national and regional seminars, conferences and workshops in their specialized fields. The teachers have participated in several academic meets held in the USA, Italy and Czechoslovakia, Portugal, Japan, Vienna, Turkey, Delhi, Calcutta, Waltair, Jodhpur, Kanpur, Kalyani, Hisar, Shillong, Guwahati and Silchar and some other places besides those organized at Agartala. Two of the Professors have visited France, Belgium and Italy and interacted with the scientists in their specialized fields. One Professor is currently in the Ataturk University, Turkey and another in the University of Bologna, Italy as visiting teachers. Under the Cultural Exchange Programme of Government of India, two of the faculty members were extended opportunity of visiting Czechoslovakia and U.K. One teacher won the Commonwealth Academic Staff Fellowship Award for 1989-90. Two teachers were granted study leave for undertaking Ph.D. programmes in US universities. One has since come back after successfully completing it. Several books have been authored and edited by the faculty members. Their research findings and expert opinions are often broadcast by local station of the AIR. One noted French Biologist, Prof. Labeyrie, visited the university for collaborative research work during 1988. A number of research papers have been published by several teachers in the national and international journals. One professor of Mathematics has earned international recognition jointly with another professor of Calcutta University for working out a solution of Einstein's Equations of General Relativity.

Inter-University Meets

The students take part in inter-university athlectic and cultural meets, youth festivals, model parliament competitions etc. The University organized the East Zone Model Parliament Competition and Women's Kho-Kho Competition 1990. In 1990 the university students won the Team Championship Trophy in the Third All-India Inter-University Model Parliament Competition held in New Delhi from 27 February to 1 March 1990 under the auspices of the Lok Sabha Secretariat. One of its students got the individual best performance award. A woman athlete got a gold medal at the East Zone Inter-University Meet.

University Authorities

The first Statutes, first Ordinances and first Regulations

(Contd. on page 14)

Excellence in Teaching

J.N.Kapur *

Be Always Proud To Be A Teacher: Be Proud Of Your Noble Profession

In our country, the teachers used to be the most respected persons. The common men and the kings used to touch their feet. Their greatness was measured, not in terms of the wealth they had, but in terms of the knowledge they possessed. From these traditions, we have come to the position where even teachers do not respect themselves. And how can a group which does not respect itself be respected by others ?

My friend Dr. Amrik Singh recently edited a book 'On Being a Teacher'[1] which contains contributions by fifteen distinguished individuals on their experiences as teachers. Commenting on my contribution in this book, Kishore Gandhi in his review of the book in the Hindustan Times of February 17, 1991 observed[2].

> "The contributors of this volume have matured in a healthy educational environment when teaching and research, commanded highest respect of the student community and they could afford to view the profession in terms of a 'sacred mission' or society's frontline job, rich in purpose and promise. Beaming with optimism, Mr. J.N. Kapur could perhaps be a solitary creature in the present hostile educational environment – exuding cynicism and and despair – to assert with audacity and boldness about the great romance of the profession by saying that 'I have been proud of my noble profession and if I were to be born again, I would once again like to be a teacher."

I do not believe I am an exception. I believe there are thousands of teachers who are proud of being teachers. I am however conscious that a large number of teachers are unhappy at being teachers and make their own lives miserable. This feeling affects their teaching and their attitude discourages many bright young students from thinking of entering the teaching profession.

I wish that every teacher, without exception, should be proud of being a teacher. Those who are unhappy should better leave the profession and join whatever other professions attract them.

My reasons for being proud of being a teacher are not based on sentiments, but on solid rational grounds.

(i) A teacher has the responsibility of moulding human lives, he influences the lives and characters of thousands of individuals. By being honest, truthful, noble, loving, he can help in making thousands of persons in becoming human, noble and truthful, since students learn very much from the example of their teachers. Each teacher can make the world a better place to live in and what nobler aim can an individual have in life ?

(ii) A good dedicated teacher gets the love and respect of thousands of his students and their parents in his life and this is honest respect and love. It is different from the 'love' and 'respect' which the politicians and administrators get because of the 'power' they have. A politician may lose all 'respect', the moment he is out of power. An administrator may have no respect when he is given a job without power, a rich man loses all respect, the moment he loses his wealth. However, a teacher is respected for his knowledge, his scholarship, his character and his love of his students and he cannot lose these except when he ceases to be a true teacher.

(iii) A teacher, specially a college teacher, is not economically badly off. He is of course not rich, nor can he have a life of luxury. He can of course make some extra money honestly by writing books or engaging in tuitions of students for whose teaching, he is not being paid by his college. He can earn every paisa honestly and not through corrupt practices. A teacher can always walk with his head held high and can be an instrument for removing corruption and nepotism from society.

(iv) A teacher may not have the same 'influence circle' as that of some administrators and politicians, but he has also his influence circle through his students. I have much wider contacts than many politicians or administrators whose influence is confined to their constituencies.

(v) A teacher however should never misuse his influence because he has to set an example of high idealism and character for the sake of his students.

Love your Students

This is absolutely essential for a good teacher. A

Jawaharlal Nehru University and Mathematical Sciences Trust Society, C-766, New Friends Colony, New Delhi -110065 teacher has an 'extended' family. For his immediate family members, he has to look after their physical needs also. For his students, he has to look after their mental, moral and character needs. He has to give them knowledge, but more important, he has to create a desire in them to know and to learn. He has to give his students a confidence that they can learn themselves. He has to inculcate in them great values of love, tolerance, humanism, cooperation, consideration for others. He can teach these values by his example. If he is helpful to his students, his students will be helpful to others in life. If he is patriotic, his students will also be patriotic. Students learn much more by the examples of their teachers than by any moral education lessons they may be given. A teacher has to be alert and vigilant and pursue moral values ruthlessly because his example is being looked upon very carefully by his students. A teacher has to be strict with himself for the sake of his students. A teacher should not only love his students, but his students should feel it in their hearts that their teacher loves them. A loving teacher will never feel any problem of indiscipline.

Love for your students implies that students can talk freely to you about their problems, and come to you with their difficulties at any time. Love also implies that you will remove their difficulties with no frowns on your face. Love implies that you are prepared to give them extra time that they may need, though this is not needed by your service conditions.

When I was young teacher, I was required to teach 15 hours a week. In practice, I used to teach 25 hours a week. I asked the timetable incharge to provide for four periods in a week for a course for which only three were required officially. I used to take extra classes on Sundays and near examination days, these used to be whole day classes. In addition, students could call on me at my home for their problems any time from 7 A.M. to 10 P.M. My wife used to welcome them and my own children got great training in life when they saw their and my own love for learning.

One particular student of another college used to come almost punctually at 7 A.M. everyday with a list of problems which he had attempted the previous day and night and failed to solve. I could solve them in about half an hour. Next day he would appear again with another set of problems. Even my family members got annoyed, "Why do you give so much time to a student who is not even a student of your college"? (later he became a teacher and still he kept coming). I said, "He is a great student, he wants to learn, he gives me challenging problems every morning and I am happy when I can solve them. What greater present can a student give to a teacher in the morning ?" Later that student and I wrote a book arising out of the problems I solved and I got plenty of dividends for the time I spent with him.

Love for your students does not mean that you accept their unreasonable requests. A teacher who marks a student present when he is in fact absent, is not showing his love for him, since in this process he is teaching him forgery and doing a great deal of harm to him. A teacher who does undue favours to a student does not love him, because he is teaching him unfairness and partiality in life. A teacher should go out of his way to help a student in learning, in improving in sports, in his extracurricular activities, but in the matter of his evaluation, he should be absolutely firm and impartial.

Once I rejected one of my Ph.D. students in a selection committee in spite of his vice-chancellor's pleading for him. I said, "He is my student. He did good Ph.D. work, but for the last five years he has not done any work. He does not deserve to become a reader". I told the same to him. He took it seriously, worked hard and within three years became a professor.

Helping your students to realise their full potential is love for them. By getting them unfair advantages, one may be actually harming his students.

A teacher should take a long-term view of the interests of his students. He should lay the foundations of a strong character, a strong sense of choosing the right path on which a sound future can be built up. Even in learning, he should train him not for passing one examination, but for passing in the examination of life-long learning.

Once in England, I went with a lady inspector of schools to visit a number of British schools. Wherever we went, young children flocked to her and she engaged them in conversations about the mathematics that was there in the environment. I asked her, "What is the magic magnet with you which attracts the children to you spontaneously ?" She said, "Prof Kapur, it is very simple. I love them and love always begets love".

When I became vice-chancellor, I told the students, "I will not accept any unreasonable demand of yours. There will be no bonus marks, no easy papers, no overall choices in question papers. I love you and therefore I expect you to work hard. I want to raise the standards so that you are respected by the employers. I may appear to be harsh sometimes, but it is because I love you."

I was accessible to them twenty-four hours to remove their difficulties with college and university administrators. It meant hard work, but I got their love and my administration could run smoothly.

Love your Subject: Love Teaching it

Every subject in the curriculum is a great heritage of mankind and has its excitement and passion. A teacher must believe sincerely that he is teaching a wonderful subject in which every topic is interesting and worth learning. He must be excited about it and must be able to communicate his excitement about it to his students.

Learn your subject in much greater depth than at which you have to teach it. Learn different ways of teaching it. Read journals dealing with teaching of the subject, participate in conferences discussing teaching of the subject, share your experiences of successful teaching with others and learn the use of modern audio-visual aids.

Let the students discover as much of the subject as they can and assume maximum possible responsibilities for learning it. Encourage them to write and articulate their thoughts and correct their assignments regularly and sincerely. See that they learn the right habits of reading, writing and thinking. Arrange quizzes and contests. Encourage creativity in every possible way.

Read a number of textbooks in the course you are teaching, compare their merits and demerits and prepare your notes taking the best part of each.

At Delhi University, I offered to teach many branches of mathematics to students even when these were not in the courses. My love for learning infected some of the students and they agreed to learn new subjects without getting any official credit for learning of these. We both had the thrill of learning for the sake of learning. Sometimes I taught double or triple of what was in the course and some students voluntarily learnt additional material. These students were regarded as 'fools' by others, but experience showed that they did much better in life than the 'wise' ones who did not agree to take the extra load.

In retrospect, I find that I have learnt much more mathematics and have proved much wiser than other colleagues of mine who believed in teaching only the contents of the course or even less.

Many students and teachers work far below their maximum capacity. Sometimes they do not utilize even twenty percent of their potential energy and they waste their remaining energy in idle pursuits. They do not even realize the tremendous harm they do to themselves in the process.

Love Learning: Be a Lifelong Learner

If you are not excited about learning new topics, h can you make your students excited about learning n topics?. Only a teacher who is continuously learn new topics himself can realize the problems of learn of new topics by his students. Only a lighted lamp c kindle another lamp.

You must constantly read new books from the libr and make reference to these in your teaching so that t students will also get excited about reading these n books. Encourage some students to read new artic and books and present what they read to their cl fellows. Form study groups with other teachers of yo college and with teachers of other colleges. Wr scholarly articles for magazines and journals. Organ student clubs and activate your students societies. I vite teachers of other colleges and universities to g lectures to your students and discuss with them fre current trends in education and research in your fiel

Build a personal library by spending a part of yo examination and other income on purchase of boo Try to read at least one new book every month.

Join some correspondence courses or M.Phil Ph.D. programmes. College teachers should regula read journals like UGC Journal on Mathemati Physics, Chemistry, Biology, Higher Education; a University News etc.

Work for a Learning Society in which everybo learns from womb to tomb. Set a good example to yo students by being a lifelong learner.

Be an Innovative Teacher

Try to learn something new every day and try to thi of some new teaching ideas every day. If you cannot something new every day, try to introduce innovatio at regular intervals, maybe in every semester of eve year.

Try to teach new subjects every year. Even if y have to teach the same subject, try to teach it in a ne manner with a new emphasis with new features. See th you improve with time.

Once I asked a group of students whether they wou like to become teachers and their answer was in th negative. The reason was rather interesting, "O teachers have to teach from the same notes year aft year. It must be extremely boring. There is no novel no change". To me it was very surprising because I hav seldom taught the same subject for more than two yea and I have learnt twenty times the mathematics I kne at the M.Sc. stage by actually teaching new topics. I w of course fortunate, but even other teachers are n obliged to use the same set of notes again and again.

s inertia which makes them do so, which makes their eaching uninteresting and students are very sensitive to catch this weakness.

Form societies of teachers interested in good learning and good teaching and institute Distinguished Teaching Awards based on objective criteria, on opinions of students,parents, and others who can assess.

Organise Committed Teachers

A committed teacher faces today an hostile educational atmosphere of cynicism, skepticism embedded in an environment of selfishness, greed, acquisitiveness in which values of service, sacrifice, dedication, lifelong learning are all at discount. The teachers associations are working only as trade unions, but have failed to provide genuine academic leadership for improving the teaching-learning process.

It must be realised that the heart of any educational system is the teaching-learning process and neither New Education Policy nor Ramamurti Commission Report will lead to a significant improvement in the Educational system, unless the heart viz. the Teaching-Learning Process is sound. It is only community of teachers who can improve this process and it is imperative that they organise themselves at local, regional, state, national levels in the form of Forums for Improvement of Teaching-Learning Process.

A beginning can be made by teachers participating in Academic Staff College Orientation Programmes in organising these forums.

Role of Academic Staff Colleges

The Academic Staff Colleges are playing a significant role in creating an awareness for Excellence in Teaching and in helping other teachers who want to improve their teaching. Fourteen years ago in 1977 after examining the working of half-a-dozen Higher Education and Research Units in Australia, which I visited in 1973 at the invitation of Australian Vice-chancellors Committee, I made the following recommendation[3]:

> "Universities should be encouraged to start higher education research units with the twin objectives of doing research in problems of Higher Education and of improving the teaching- learning situation in classroom by using pedagogic and technological tools"

Even at the time when the UGC decided to launch its Faculty Improvement Programme, as a member of the UGC Advisory Committee, I had presented a paper giving seven suggestions for faculty improvement[4]. One of the suggestion was as follows:

> "Teaching-Improvement Units in Universities: Every university should have a unit for advising teachers how to improve their teaching. It may help teachers in getting the reaction of the students to their teaching assessed and in getting their lectures assessed by experts, in organising regular lectures on basic pedagogic principles relevant to college level teaching, in organising conferences and symposia on problems of higher education and installing audio-visual aids for improvement of teaching in the universities and so on."

My suggestion was overruled in favour of training undergraduate college teachers for Ph.D. degree at a cost of about Rs. 50,000 per teacher.

I am glad that though delayed, the Academic Staff Colleges were formed.

One major difference in Australian Higher Education Units (HEUs) and the Academic Staff Colleges is that in Australia, these were started as a result of the demand for good teaching by students and the demand of teachers to improve their teaching to satisfy the students, here these have been started as a decision of the UGC. A second major difference is that there every individual teacher can get help in improving his/her individual teaching, here in general it is group help. The third major difference is that while there the HEUs also undertake research in problems of higher education, here perhaps this is not included as a major function of Academic Staff Colleges.

A Teacher's Prayer

"O Lord, let me be a better teacher today than I was yesterday and let me get a twinkle in the eyes of every student when I teach. Let me be able to create a desire in all my students to learn. Let me spare no effort to help my students to develop themselves. May I deserve all respect and love of my students. May I continue to learn throughout my life and may I inspire my students to learn throughout their lives. May I set only a noble example to all my students. May I be proud of my profession, my college and my students. So help me Lord".

References

1. Amrik Singh, (Ed.) On Being a Teacher, Konarak Publishers, New Delhi, 1990.
2. Gandhi, Kishore. Glimpses of the Teaching Profession, The Hindustan Times, Feb 17, 1991.
3. Kapur, J.N. Current Issues on World Higher Education, Chapters 14, 15, 16, 17, S. Chand & Co. New Delhi, 1977.
4. —Current Issues on Higher Education in India, Chapters 15, 16, 17, S.Chand & Co. New Delhi, 1975.
5. —Excellence in Teaching, Mathematical Sciences Trust Society, New Delhi, 1990.
6. --Towards Excellence in Higher Education, Mathematical Sciences Trust Society, New Delhi, 1991.

Development of a Curriculum for Orientation of University and College Teachers

N. Rajamony*
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Introduction

Curriculum as we know can be classified into humanistic, social reconstructionist, technological or academic. Advocates of each category of curriculum have different views about what should be taught, to whom, when and how. Whatever may be the curriculum it is intended to bring about certain behavioural changes in the society and the individuals. All curricula have specific purposes to be achieved.

The Indian educational system or in fact any other kind of educational system has to cater to the needs of individuals at their three different stages of growth, namely childhood, adolescence and adulthood. The respective levels of education during these stages can be classified as primary, secondary and tertiary (higher). Each of these levels of educational system has its own specific aims and objectives to be achieved in the society. In this paper our focus will be on the higher education.

We have today in our country about 190 universities and 7000 colleges offering higher education with a teacher strength of about 3 lakhs. Adequate awareness had been created in the country towards the need for training of teachers at the primary and secondary levels and there are various agencies involved in these activities. As far as the higher education is concerned many in the higher ups thought there was no need for training teachers at the higher education level. This is no more valid as in any kind of activity including teaching in universities and colleges training of teachers will be certainly beneficial for providing better education to the students. The various education commissions set up by the Govt. of India during the last four decades including the committee on National Policy on Education stressed the need for improving the quality of higher education through training the teachers. The UGC which is the central agency looking after higher education has evolved a scheme of Academic Staff Orientation and took initiative in establishing 4 Academic Staff Colleges in various universities all over India.

Academic Faculty in Colleges and Universities

Universities and colleges are the two important units which impart education at higher level. The faculty structure of each department in universities consists of Professors, Readers and Lecturers. This is more or less uniform in almost all the universities in our country. Coming to the faculty structure in colleges of higher education, right from the implementation of Mehrotra Committee recommendations regarding pay scales, the position is that, we have in colleges Lecturers, Lecturers (Senior Scale), Lecturers (Selection grade) – the senior most lecturer in each department will be heading the department. Each college is headed by a Principal in the scale of pay of a Professor or Reader based on certain criteria. The quality of higher education very much depends upon the academic faculty working in universities and colleges. The major activity in universities and colleges is teaching the students. This requires on the part of the teacher competencies in the subjects, understanding of the students, communication skills, understanding of the relevance of the subjects to the community needs and also the system in which they work. Colleges and universities have their own structures and methods of working under the overall control of Govt. policies and agencies. Equipping the teachers with the above will enable them to function more effectively. Orientation of university and college teachers will ensure this.

Academic Staff Orientation Scheme of UGC

The National Policy on Education 1986 (NPE) recognises the need for improving the status of the teacher and proposes to provide opportunities for professional and career development so that teachers can fulfil their role and responsibilities effectively. One of the steps proposed by the NPE towards this direction is the organisation of specially designed Orientation Programmes in teaching methodology, pedagogy, educational technology, educational psychology, etc.

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The objectives of the Academic Staff Orientation course are to enable the newly appointed lecturers to :

(a) understand the significance of education in general and higher education in particular, in the global and Indian contexts;

(b) understand the linkages between education and economic and socio-cultural development with particular reference to the Indian polity where secularism and egalitarianism are the basic tenets of society;

(c) understand the role of a college/university teacher in the national goal of achieving a secular and egalitarian society;

(d) acquire and improve basic skills of teaching at the college/university level;

(e) be aware of the developments in his specific subjects; and

(f) understand the organisation and management of a college/university and to perceive the role of a teacher in the total system.

In order to achieve the above objectives a curriculum has been suggested with four Components.

COMPONENT-A: Awareness of linkages between Society, Environment, Development and Education

This component aims at helping the teacher to realise the larger context of education and the role of a teacher in a society.

COMPONENT-B: Philosophy of Education, Indian Educational System and Pedagogy

This component aims at imparting basic skills that a teacher needs for effective classroom teaching.

COMPONENT-C: Subject Upgradation

This component should have two major thrusts:

(a) to enable the teacher to translate the relevant syllabus into a detailed plan of classroom presentation and to effectively present the basic concepts at the appropriate level; and

(b) to make the teacher self-sufficient in keeping himself continuously abreast of the new knowledge in his discipline.

COMPONENT-D: Management and Personality Development

This component aims at familiarising the teachers with the organisation and management of the college/university, enabling them to understand the interlocking of the various subsystems within the college/university and appreciate the role and functions of a teacher within the system.

A Study by Academic Staff College, Pondicherry University

The Academic Staff College, Pondicherry University having conducted 12 orientation programmes upto March, 1990 and having trained 376 university/college teachers all over the country conducted a study on the training needs of teachers in higher education. This study was necessitated by the fact that there should be enough receptivity among the university and college teachers and must also satisfy their training needs based on the role and functions they are expected to perform in higher education.

The study was conducted to achieve the following objectives:

(a) to find out the usefulness of the various topics dealt in during the course;

(b) to find out an effective strategy for subject upgradation;

(c) to identify effective strategies for the conduct of the programmes;

(d) to identify the additional topics that are perceived to be useful by the academic faculty;

(e) to find out effective duration;

(f) to identify the amenities and facilities required for effective conduct of orientation programmes; and

(g) to find out the expectations of academic faculty from Academic Staff Colleges.

Specially designed questionnaires were used to elicit responses/suggestions/comments from the academic faculty working in Pondicherry and Annamalai University areas. The respondents included professors, readers, senior lecturers and lecturers belonging to the disciplines of Botany, Chemistry, Commerce, French, Hindi, History, Mathematics, Physics, Sanskrit, Tamil and Zoology. Based on the rankings and weightages given to the various topics, strategies and duration of the course to achieve the objectives of orienting teachers in higher education the following curriculum was arrived at.

Suggested Curriculum

The findings of the study conducted by the Academic Staff College, Pondicherry University enabled it to identify 33 core topics and 8 strategies for implementation based on a cut-off point of 60% as weithtage spread over a duration of 4 weeks with 36 contact hours per week. Preparation of an article on a topic of current interest from the respective disciplines and a design of activities for teaching - learning of the topic should also form part of the curriculum for orientation. The eight strategies identified are Lecturer-cum-Discussions, Audio-Visuals, Seminars, Study Visits, Project Work, Open Sessions, Experiential Sessions and Assignments.

The core topics identified, the coverage of ea topic, strategies to be employed and contact time requirements are given here under:

Sl.No. (1)	Topic (2)	Coverage (3)	Strategies (4)	Time in Hours (5)
COMPONENT-A				
1.	Role and Responsibilities of teachers in higher education	Role of teachers in higher education, individual and collective responsibilities of teachers towards colleagues, students, institutions, and profession and society	Seminar	3
2.	Human Values	Values & character formation, national character, moral, religious and cultural values	Lecture cum Discussion	3
3.	Role of Science and Technology in Higher Education	With particular reference to Indian situations and problems faced by the country—future trends	Lecture cum Discussion & Audio-Visuals	3
4,	Environmental Pollution and Control	Related to both urban & rural conditions.	Lecture cum Discussion, Field Visits & Audio- Visuals	6
5.	Education & Society	Education as an agent of social change and the interrelations between social development and various levels/sectors of education	Lecture cum Discussion	3
6.	Indian Tradition & Culture	Their influence on social changes and relevance for national development	Lecture cum Discussion	$1\frac{1}{2}$
7.	Education and Economic Development	Education as an agent of economic development and the interrelationship between economic development and various levels/sectors of education	Lecture cum Discussion	3
8.	Problems of Youth	Of adolescents and young adults	Lecture cum home assignments	$1\frac{1}{2}$
9.	Promoting Health	Physical and related aspects of mental health of significance to adolescents and young adults	Lecture cum Discussion	$1\frac{1}{2}$

1)	(2)	(3)	(4)	(5)
10.	Education & Rural Development	Education as an agent of rural development and the interrelationship between rural development and various levels/sectors of education	Lecture cum Discussion & Study Visit	6
11.	Role of Women in National Development	Present and future roles of women, responsibilities, educational and vocational opportunities, changing roles of women in family and society	Lecture cum Discussion & Audio-Visuals	3
12.	Poverty, Unemployment & Under employment	With reference to Indian context and approaches to solving problems	Lecture cum Discussion	$1\frac{1}{2}$
			(24 Sessions)	36

COMPONENT-B:

1.	Aims and Objectives of Higher Education	With reference to national policies in the Indian context	Lecture cum Discussion & Home assignments	$1\frac{1}{2}$
2.	Concept of Teaching, Learning as applied to Higher Education	With reference to the needs, aspirations and abilities of adolescents and young adults in the Indian set up	Lecture cum Discussion	3
.	Curriculum Development in Higher Education	Distinction between syllabus and curriculum, design and development of curriculum, curriculum implementation, evaluation and modification/revision	Lecture cum Discussion	3
.	Models of Teaching	As are applicable to higher education	Lecture cum Discussion	$1\frac{1}{2}$
.	Student Evaluation	Distinction between examination and evaluation, formative and summative evaluation, preparation of questions and other test items, administration and scoring of tests and examinations	Lecture cum Discussion, Audio-Visuals & Home assignments	3
.	Creativity and Innovation in Higher Education	Identification of talented, gifted and creative students in higher education,promoting creativity and innovation in various disciplines	Lecture cum Discussion, Audio-Visuals & Experiential sessions	3
.	Motivation of Adolescents and Young Adult Learners	Internal and external motivation, achievement motivation for adolescents and young adults, development of interest in concerned disciplines	Lecture cum Discussion & Audio-Visuals	3

(1)	(2)	(3)	(4)	(5)
8.	How to Make Use of Library	Development of independent study skills and skills in making use of library materials	Lecture cum Discussion & Audio-Visuals	3
9.	Educational Objectives	Formulation and writing of objectives related to knowledge, skills and attitudes	Lecture cum Discussion, Audio-Visuals & Assignments	3
10.	Lesson Planning	Elements in the process of lesson planning, teaching learning activities and evaluation for achievement of lesson objectives with respect to acquisition of knowledge, skills and attitudes	Lecture cum Discussion, Audio-Visuals & Assignments	3
11.	Student Management	With reference to adolescents and young adults in universities and colleges pursuing different courses of studies	Seminar	3
			(20 Sessions)	30
COMPONENT-C				
1.	Subject Paper	This appear should contain the recent developments on a current topic/area of interest in the concerned discipline based on the current publications (Spread over four weeks) (only contact hours)	Lecture cum Discussion cum Project Work	15
2.	Action Plan for Teaching a Topic	This should contain horizontal and Vertical organisation of subject matter in a chosen topic from their respective disciplines and the lessson plans	Lecture cum Discussion & Project Work	9
		(Spread over four weeks, (only contact hours)	(16 sessions)	24
COMPONENT-D				
1.	Personality Development	With reference to the adolescents and young adult students in Indian universities and colleges, and for the teachers own development of personality	Lecture cum Discussion & Experiential Sessions	$4\frac{1}{2}$
2.	Logical Thinking	As relevant to various disciplines in higher education	Lecture cum Discussion & Assignments	3

(1)	(2)	(3)	(4)	(5)
3.	Academic Freedom	Autonomy, accountability and responsibility of teachers of various categories in higher education	Seminar	3
4.	Effective Writing	Preparation of articles, papers, reports, dissertations and books	Lecture cum Discussion, Audio-Visuals, Home Assignments	3
5.	Administration of Higher Educational Institutions	Govt., autonomous & private colleges and Indian universities	Lecture cum Discussion & study visit	3
6.	Communication Skills.	Verbal & non-verbal communication skills, teaching skills	Lecture cum Discussion, Audio-Visuals, Experiential Sessions	12
7.	Student Guidance and Counselling	With reference to adolescent and young adult boys & girls in colleges and universities, educational, vocational and personal guidance	Lecture cum Discussion, Audio-Visuals, & Assignments	3
8.	Professional Ethics and Code of Conduct	With reference to university and college teachers	Lecture cum Discussion	$1\frac{1}{2}$
9.	Organisation of Sports and Games	With orientation towards the development of a wholesome personality	Lecture cum Discussion, Audio-Visuals, Experiential Sessions	6
10.	Leadership Styles	With special reference to the leadership styles being practised by various categories of teachers and academics in universities and colleges and also to develop effective leadership style for different situations	Lecture cum Discussion, Audio-Visuals, Experiential Sessions	3
			(28 sessions)	42
	Eight Guest Lectures		(8 sessions)	12
		Grand Total	(96 sessions)	144

The study also enabled us to identify which strategies are suitable for the various core topics and also the duration in contact hours to be devoted for each of them. A total of 88 sessions of $1\frac{1}{2}$ hours duration each (i.e., 132 contact hours) will berequired, leaving a balance of 12 contact hours (i.e. 8 sessions) for organising guest lectures on topics of local interest. This curriculum for academic faculty orientation has the built in characteristics of flexibility, interactive strategies and modern educational technology enabling the teachers to function more effectively in universities and colleges. This has further been supported by another study on the effectiveness of the orientation programmes conducted by the Academic Staff College, Pondicherry university.

Conclusion

A total of 96 sessions of $1\frac{1}{2}$ hours each to cover the curriculum for orientation of academic faculty will result in enabling teachers of higher education to develop necessary awareness and understanding of the relevance of the subjects to the community needs as also develop necessary competence and capabilities for functioning in their institutions more effectively. Enhancement of teacher capabilities in higher education will certainly improve the quality of higher education in India.

References

1. Academic Staff College, (1987). **Academic Staff College —A Concept: UGC Guidelines**. Pondicherry University, Pondicherry.
2. Apple, Michael, W. (1982). **Education and Power**. Routledge & Kegan Paul, Boston (USA).
3. Govt. of India, (1986). **National Policy on Education**. Dept., of Education, Ministry of Human Resources Development.
4. Hirst, Paul H. (1974). **Knowledge and the Curriculum**. Routledge & Kegan Paul, London, (UK).
5. Levine, J.M. and Wang, M.C. (Eds), (1982). **Teacher and Student Perceptions: Implications of Learning**. Erlbaum, Hillsdale, N.J. (USA)
6. McNeil, John D. (1985). **Curriculum: A Comprehensive Introduction**. Little Brown and Company, Boston, USA.
7. Phenix, Philip H. (1964). **Realms of Meaning**. McGraw Hill, New York, (USA).
8. University Grants Commission, (1986). **Academic Staff Orientation Scheme**. New Delhi.

Tripura University

(Contd. from page 3)

of the university have been framed and the constitution of the Senate, Synadicate and Academic Council, Board of Faculty and Board of Studies is currently under way. The Process will be completed whtin May 1991.

Membership of Inter-university bodies

The university is a member of the Association of Indian Universities as also of the Association of Commonwealth Universities.

Fantastic future

The university held its first convocation on 17 April 1990. Professor Yashpal, the then Chairmen of the University Grants Commission delivered the convocation address. In the course of his address he opined:

> "From what I have seen of this very very young university, of its teachers and students in an intensive sort of discussion which I had since yesterday morning, you might even call them transactions and seminars, I am sure, there is a fantastic fututre ahead of you and that the importance of this first convocation will increase as time goes by"

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Hon-Secretary

Supreme Court on Chancellor's Power of Appointing University Teachers

N.L. Mitra*

Many of the University Acts and Statutes provide[1] that in the event of Executive Council of the University refusing to accept the recommendation of the Selection Committee, the matter is referred to the Chancellor whose decision is final. The nature of this power of the Chancellor has been tested in several High Court cases[2] with conflicting decisions. The Supreme Court of India has finally come out with a very well reasoned decision in this matter in Km. Neelam Misra's case[3] recently. The main issue contested here in this case is 'what is the nature of power of the Chancellor in such a case, is it quasi-judicial or merely administrative'! In the event the act being a quasi-judicial one, the chancellor has to apply the principles of natural justice in the process of his decision making, otherwise he has only to ensure 'fairness' or 'fair procedure'.

The earlier position in the decisional law[4] was that "the Chancellor must state explicitly the reason for the decision. The Chancellor in order to arrive at a decision has to make a judicial approach to the question and he is enjoined by the Act to act *quasi-judicially*" (emphasis mine). Such a stand requires that a 'lis' be presupposed so that acting quasi-judicially can be envisaged with all the requirements of natural justice.

While reversing the decision of the Allahabad High Court in an appeal preferred by Km. Neelam Misra[5] the Supreme Court has analysed the statutory requirements in great details and has come to the conclusion that the nature of the Chancellor's act is purely administrative in nature and not quasi-judicial as was held in the High Court. K. Jagannatha Shetty, *J.* observed, "the Chancellor in the circumstances has to examine whether the recommendation of the Selection Committee should be accepted or not. If any opinion by way of disagreement has been recorded by the Executive Committee on that recommendation, the Chancellor has also to consider it. He must take a decision as to who should be appointed. It is indeed a decision with regard to appointment of a particular person or persons in the light of the recommendation and opinion, if any, of the two statutory authorities. Such a decision appears to be as administrative in character much the same way as the decision of the Executive Council with regard to appointment"[5a]. So "no judicial or quasi- judicial duty is imposed on the Chancellor and any reference to judicial duty seems to be irrelevant in the exercise of his functions"[6]

The Court has also concluded that "we see nothing in that to justify our thinking that it must conform to the principles of natural justice"[7]. The Court also went on record to find that observation by the Supreme Court in Dr. G. Sarana's case[8], that "the aggrieved candidate has remedy by way of representation to the Executive Council and an application for reference under S.68 of the Act to the Chancellor", was unfounded in this connection as "there is no further right with the candidates to make representation to the Executive Council and much less to the Chancellor"[9].

The power of the Chancellor in such a case is not to umpire or arbitrate between two statutory bodies or between contesting candidates. His power is purely administrative and as such he has to ensure 'fairness' "For this concept of fairness, adjudicative setting are not necessary, nor it is necessary to have 'lis' inter parties."[10]

Two observations of the Court in this case are distinctly notable :

(a) "In matters of appointment in the academic field the Court generally does not interfere"[11]; and

(b) "When appointments are based on recommendations of experts nominated by the Universities, the High Court has got only to see whether the appointment has contravened any statutory or binding rule or ordinance. The High Court should show due regard to the opinion expressed by the experts constituting the selection committee and its recommendation on which Chancellor has acted"[12].

Notes and References

1. The Supreme Court referred to S.27(4) of the Jawaharlal Nehru University Act, 1966, S.32(2) of the Calcutta University Act 1979; S.52(2)(e) of the Bombay University Act 1974; S.27(5) of the Aligarh Muslim University Act, 1920; S.49(2) of the M.P. Vishwavidhayalaya Adhiniyam 1973 etc..
2. **Dr. U.N. Roy v. His Excellency Sr. G.D. Tapase, Chancellor, Allahabad University**, 1981 UPLBEC 309; **L.N. Mathur v. Chancellor, Lucknow University**, AIR 1986 All 273, **Dr. G. Sarana v. University of Lucknow** AIR 1976 SC 2428 et. al.
3. **Km Neelima Misra v. Dr. Harinder Kaur Paintal and others** AIR 1990 SC 1402.
4. **L.N. Mathur v. Chancellor, Allahabad University** AIR 1986 All 273
5. **Supra** note 3

5a. **Ibid** p 1410 para 25

6. **Ibid** para 28
7. **Ibid** para 28
8. AIR 1976 SC 2428
9. **Supra** note 7, para 16
10. **Ibid** para 23
11. **Ibid** para 32, also refer to **University of Mysore v. Govinda Rao** AIR 1965 SC 491
12. **Ibid**, also refer to **Kulshreshtha v. Chancellor, All. University** AIR 1980 SC 2141

**Professor, National Law School of India University, Central College Campus, Bangalore - 560 001.*

In An Ivory Tower

Prof V C Kulandai Swamy, Vice Chancellor, Indira Gandhi National Open University, New Delhi delivered the Convocation Address at the tenth convocation of the Nagarjuna University, Guntur (AP). He observed, "It used to be said that the academics are in an ivory tower. I do not know whether they are: but in a way, our higher education system seems to be in an ivory tower. It is not intimately bound with the air, water and soil of the society in which it is taking place. It tends to uproot the students from the environment in which they were born and brought up; it slowly uproots them from their tradition and culture; and ultimately it helps to uproot the talented ones from their own country." He added with concern that, "this has been going on imperceptibly, steadily and perhaps with an increasing pace. If education brings alienation, that will be the greatest tragedy that can happen to a nation. One sees, though dimly, such a scene on the horizon". Excerpts

CONVOCATION

The great saint and philosopher, Nagarjuna, after whom this University has been named, symbolises some of the finest traditions of this country in intellectual pursuit, experimentation, search for truth and revolt against obsolete established order. It is highly imaginative on the part of the founding fathers of this institution to have journeyed back into our past and thought of a thinker, who so admirably epitomises the ideal of a teacher being an avid listener and an eternal learner. One does not witness such mature consideration and perception in recent years in the choice of names for universities. One may claim no credit for being the inheritor of a great tradition, for inheritance warrants no great effort on the part of the inheritor : but to be worthy of a great legacy is truly a matter of pride and satisfaction. I am sure the name and the thoughts of a great past that this environment will bring to one's mind will continue to exert an elevating influence on all who live, work and learn in this campus.

It has become an established practice to avail oneself of a convocation address to make a few observations on a theme that may be of relevance to the occasion. In India, education is a subject discussed in almost every forum. Fortunately, it is a subject on which every one feels qualified to express an opinion, but unfortunately often critical and damning. We teachers are the only people who feel hesitant and diffident to speak about education. Where many seem to rush in, we somehow, fear to trend. I may take advantage of this opportunity for a brief discussion of some aspects of higher education. Invariably every one who seeks to speak about higher education in India, criticises it, and does so in the strongest possible language. Higher education in this country has been condemned almost uniformly by political leaders, administrators, journalists, parents, and what is worse, by the students and teachers as well. Surprisingly, political parties which in this country hardly agree on anything among themselves, are unanimous in delivering an adverse and harsh verdict on higher education. Berating it has even become a fashion with many. Every one who passes by an educational institution stops for a while, picks up a stone, hits at it, making an already bleeding institution to bleed more and walks ahead with the supreme satisfaction that he/she has made a great contribution to education.

We seem to be developing unfortunately in this country the culture of condemnation and a philosophy that condemning is by itself a contribution. Demolition of a system without replacement is no reform; it is another form of vandalism. Let me take this opportunity to declare that we have made great strides in higher education and research since Independence. This country has produced scientists, engineers, technologists, doctors and managers who are in demand all over the world, both in advanced and developing countries and who have distinguished themselves in every area of knowledge. The scientific and technological capability of India today is far above that of any developing country : is above that of some of the advanced countries as well. If we are today among the top ten countries in our industrial capacity, it is not without the contribution of manpower and tools provided by higher education. The green and white revolutions are achievements that any nation can be proud of. These and many others are achievements to which our institutions of higher education and research have made significant contribution.

- The higher education system has today the necessary infrastructure, the tools and the manpower. It has a tremendous potential. The use of the tools, the employment of the manpower and the utilisation of the potential are not a matter of education and are not in the domain of educationists alone. It transcends the boundaries of the classrooms and the campuses of universities. It belongs to the realms of political decision making, economic planning and implementation. Unemployment is not an academic problem : surfeit of educated manpower, if it is really there, is not due to the design or decision of teachers. I would like to make two observations :

* Let us have faith and confidence in the higher education system that we have developed and the potential it has.

* Let us also be clear about what lies within the power and jurisdiction of the academic community and what lies outside its purview and direct responsibility.

Having made these general remarks, let me come to the consideration of certain issues in higher education. There are three major aspects of education that, in the present context, deserve consideration :

* Relevance
* Quality
* Equality of opportunities and equity

The success of democratic system requires an informed and enlightened public opinion and this needs almost as a prerequisite democratisation of education. Measures to achieve this objective would bring into consideration problems of equality of opportunities and equity. But these fall substantially within the realm of policy making at the political level and are not mainly academic in nature, I shall leave this aspect and consider the other two : namely relevance and quality. It may be helpful for us to take a look at the global trend in higher education. A few facts stand out in the world scene :

* Higher education has received much greater attention than ever before, all over the world in the last few decades, not only in developing countries, but also in advanced countries.

* If we reckon the number of universities, those established after 1950, i.e., in the second half of this century, will be more in number than all the universities established during the entire period of history before 1950.

* The Governments are taking more interest than ever before in higher education and are making greater allocation of funds. Governments all over the world do not make a distinction between interest and intervention and conflicts have also arisen concerning university autonomy.

* The most dominant characteristic of this century is the emergence of knowledge as a major force and a resource and the consequent importance that education has gained.

It is obvious that knowledge will be a real resource only if it is relevant. Knowledge is power only if it is useful. Manpower developed will be useful only if that manpower in terms of its education and trading is relevant to the developmental needs of the society. It is in this connection, you find today such terms as Accountability, Cost-Benefit Analysis and Management of Education being talked about. Some decades back, the academic world would have rebelled against such ideas as being 'managed' and 'made accountable'. Today, whether you like it or not, Accountability, Economic Analysis and Management of Education have come in and we accept them. We have to accept them. The global trend is in a way symbolised by the abolition in the U.K. of the University Grants Committee and the establishment of the University Funding Council. We must realise that 'providing Grants' is very much different from 'providing funds'. 'Funding' implies an accountability very different from 'making grants'.

The *"White Paper on Higher Education; A Policy Statement" (1988) of Australia, Learning for Life Proposals and the Education Amendment Act, 1990 of New Zealand, the Education Reform Act, 1988 of the U.K, the Education Reform Act, 1987 of Zimbabwe and our own National Policy on Education 1986* reflect the changes in importance and emphasis, that are witnessed in the field of education.

Knowledge is no longer for its own sake; it is for the sake of the people. Higher education is not part of social service; it is in the world of investment. It must yield tangible results in addition to intangible ones. It means we must relate the creation of knowledge as well as communication of knowledge to the short and long term developmental needs of the nation.

With some reservations, we may concede that manpower development and generation of knowledge must be related to the needs of the economy. The question that we face here is, how do we achieve this objective ? Manpower prediction has been a difficult task even in a controlled economy : It has been difficult in advanced countries with all their data base and tools of prediction. In our case it is formidable. There is hardly any manpower forecast available with the departments of the Government. The Institute of Applied Manpower Research is yet to make its impact. There is no formula; no thumb rule by which the supply and demand relationship can be established for manpower. It is a task not only for the academics; but also and more so, for all the employers, parents and members of the public. Higher education for our youth is too vital an issue to be left to the teachers alone.

There is another aspect that deserves consideration. We need to orient the content of education i.e., curriculum and syllabi to the environment. There is a need to expose our teachers and students to the problems of the society and the nation. It used to be said that the academics are in an ivory tower. I do not know whether they are : but in a way, our higher education system seems to be in an ivory tower. It is not intimately bound with the air, water and soil of the society in which it is taking place. It tends to uproot the students from the environment in which they were born and brought up; it slowly uproots them from their tradition and culture; and ultimately it helps to uproot the talented ones from their own country. This has been going one imperceptibly, steadily and perhaps with an increasing pace. If education brings alienation that will be the greatest tragedy that can happen to a nation. One sees, though dimly, such a scene on the horizon.

We often take pride in claiming that our curriculum and syllabi are comparable to those in Oxford, Cambridge or Harvard. The more close they are, the better it is in our judgement. We have never once questioned the logic of this approach. The educators in those countries have formulated their curriculum and syllabi to meet the needs of their countries. Why do we think, that we should lay so much emphasis on this comparison ? I am aware that higher education has certain universal components. When we consider a master's degree or a doctoral award, certain standards of intellectual preparation, analytical ability and knowledge of certain basic principles are expected : but they must be related to the problems and programmes of the society in which the education is imparted. We have failed to develop in our students an understanding of the short and long term needs of the nation and relate their learning to those needs : We have failed to develop in them an appreciation of the programmes in operation and in offing : we have failed to develop in them a concern for the people, whose sweat and toil have provided them the opportunities for education. We see today the sorrowful spectacle of an illiterate, innocent people being neglected by the very people in whom they have placed their trust and invested. I confess that partly, not fully, the academic community of which I am a member must also own responsibility for the situation in which we find ourselves today.

The causes for the above situation may be many. I may refer just to one aspect before I conclude. We are aware that higher education has seen tremendous expansion. In place of 22 universities in 1951, we have nearly 190 toady : in place of 695 colleges, we have around 7000 : the students are over four million in place of a mere 1,74,000 in 1951 : an impressive record by any yardstick. It has been, predominantly, a linear expansion. There have been changes, reorientation has been attempted. The Higher Education Commission under the Chairmanship of Dr. Radhakrishnan, the Education Commission under Dr. Kothari, the National Policy of 1968 and the New National Educational Policy of 1986 did identify and recommend the changes needed and the reorientation to be brou about. The recommendations we accepted by the State Governmen by the Central Advisory Board Education, the highest poli making body, and by the Univers Grants Commission : but we fail in implementation. Our archi are full of un-implemented reco mendations of Commissions a Working Groups.

We often tend to attribute the failures to lack of funds. It is co ceded that finance is one constrai But it has not been the only co straint.

* We did not develop a manag ment system equal to the task.

* We did not involve t educationists and academics policy formulation and decisi making.

* We have not so far develop an academic leadership ev though, education happens to be t sector accounting for the seco largest expenditure in the natio budget.

* All major decisions in the fie of education have been taken by t administrators and political leade The status and role of academic a ministrators like Principals, Dea and Vice-Chancellors have suffer a steady erosion over the years.

In a vast country like our change will need experimentatio pilot studies, evaluation of resu and wider application of test strategies. The education manag ment at the State level was capab of handling a programme of 'mo of the same', but not of reform a reorientation which nee knowledge and insight and is not matter of routine administratio Investment of more funds witho the necessary organisational su stratum will only result in inefficie utilisation.

I have spent nearly four decad

teaching, research and education l administration : have had some pportunities to watch and evaluate ne progress we are making or have nade. I am of the considered pinion that the problem of higher ducation today is a problem of nanagement. The earlier we pay ttention to this, the better it is. The nanagement reform should, suceed in development and utilising cademic leadership at the level of he college, at the level of the univerity, at the level of the state and at he Centre. Implementation of the ecommendations made in the Naional Educational Policy of 1986 concerning organisational structure vould have achieved this purpose ubstantially : but unfortunately, we ave not implemented them. I am of he considered opinion that any eform in higher education must tart with a reorganisation of its nanagement structure aimed at developing leaders in education and providing opportunities for them to play a significant role in moulding the policies, plans and programmes of education.

To conclude, I would like to congratulate all the graduates and prize winners on their achievements. In Germany, there used to be, and there still is in some universities, a very healthy practice. They have a convocation organised on a grand scale at the beginning of the academic year to confer on the fresh students the status of student of higher education and to admit them to the privileges of the university. They do not have a convocation when the students qualify for the diploma or degree. Their stand is that higher education has a beginning but no end. Such a philosophy is more true today than it was at any time. In the world of knowledge, you have to keep running to stay where you are.

I do not believe in rendering advice. I have only one observation to make. You and I have received the benefit of higher education and are entitled to whatever privileges it may confer on us. We were enabled to have this opportunity by the common man. The classroom, the laboratories and the libraries were constructed, the equipment was purchased and the staff members were paid by his contributions. He knows no higher education. He does not understand the language that you and I speak even it be his mother tongue. He may not even enter the world of sophistication that higher education may lead you to. Even his children may not enter the portals of a university : nevertheless he supports this system by his sweat and toil. Wherever we are and whatever we do, it is good to remember that we are indebted to him.

DAAD Fellowships 1992/93

The DAAD annual fellowships (research and sandwich-model) for 1992/93 will shortly be offered to the Government of India through the Department of Education, Ministry of Human Resource Development and the University Grants Commission.

Essential Pre-requisites for both types of fellowships:

Candidates must possess a Master's Degree;

Candidates must be residing in India at the time of applying;

Candidates should not be more than 32 years of age;

Candidates must have a **recent-dated letter of placement from a German professor;**

All applications must be routed through proper channels.

Pre-requisites for research fellowships:

Candidates must be permanently employed and employers must undertake to re-employ them on return.

Pre-requisites for fellowships under the Sandwich-Model Scheme:

Candidates must be registered for their Ph.D. degree in India. The fellowships allow scholars to do research in Germany under the co-guidance of a German professor for their Doctorate degree (awarded in India);

Permanent employment is not essential.

For further information contact:

DAAD

German Academic Exchange Service
176, Golf Links, New Delhi 110003.

CAMPUS NEWS

Seminar on 'University-Society Interaction'

A two-day Seminar on 'University-Society Interaction' was recently organised by the Bombay University Academic Staff Association under the sponsorship of the ICSSR (WRC). Explaining the objective of the seminar, Head, Department of Geography, Prof. B. Arunachalam stressed the need for a determined effort on the part of the university system to understand the aspirations and expectations of the university and to revamp the structure and functions of the system to the changing needs of the society, lest the university should bacome irrelevant.

Dr. Jyotiben Trivedi, former Vice-Chancellor, SNDT Women's University, initiating the discussion on the role of the University Senate was of the view that the powers of the Senate as at present were of a corporate management body with over-riding powers in academic, financial, affiliation and management areas, though to a large extent these powers had been eroded by investing in the state government direct sanctioning and financial controls through amendments in the Acts. Deploring the ineffective functioning of the Senate, she made a plea for a Planning Board in place of the Senate, but most of the participants were of the view that the Senate was very much needed for providing a forum of interaction between the Society and the University.

Dr. B.M. Udgaonkar of the Tata Institute of Fundamental Research (TIFR), argued in favour of enabling steps through autonomy and redefining educational objectives so as to bring about a phased transformation of institutions of higher learning into centres of academic excellence, from where the university talents could provide leadership not only in the intellectual world but also in all walks of social, economic and political sectors. While looking for universalisation of education at lower levels, a core quality segment at the higher levels need not be incompatible, he opined.

Dr. M.R. Kurup, Principal, V.G. Vaze College, made a fervent plea for active student participation in academic, extension and community programme through guided counselling and proper teacher student rapport and interaction. He said that given the right input the student force in the country could bring about effective quality improvement of the environment and society through targeted action programmes.

Reviewing the financial crunch under which the universities struggle for survival at present, Dr. K.K. Balachander, Secretary-Technical Coordinator, ULP (Economics), examined the need for a more enlightened financing policy on the part of the state and central governments, and also made a plea for exploring fresh avenues such as an enhanced tuition fee structure, active collaborative revenue earning programmes, and munificient donations from alumni.

After making an indepth, perceptive analysis of the university examination system, that have nearly totally eroded the credibility of the university system, Prof. B Arunachalam, Head, Department of Geography, called for a radical change in the obtaining situatio through creative and productive measures like decentralisation and internalisation, newer modes o testing varied skills, aptitudes, knowledge content, and even credit base system of evaluation.

Shri D.T. Joseph, I.A.S., in a scintillating discussion on the role an functions of officers and authoritie in the university system, emphasise the need for accountability, publi relations and the need to clearly distinguish between the long-term policy objectives and short-term programmes and precedures and clarity of perception of strategie and projects. He said that actio had to be necessarily individual oriented with clear-cut respon sibilities while the consensu mechanism of the authorities mus be policy and managemen focussed.

A Model University Ac prepared by a group of academics i the University, in its draft form wa discussed in eleborate detail focussing on the composition an functions of authorities and officer so as to make the Act an enablin mechanism for achieving quic results of academic performan and targeted outputs. In the light the suggestion, a revised draft inco porating suggestions was intende to be submitted to the Chancellor the academic suggestions for University Act.

Dr. (Miss) M.D. Bengalee, Vi Chancellor, Bombay Universit presided over the valedictory se sion which was addressed by Dr. K.G. Deshmukh, Vice-Chancellor of the Amravati University. Dr. Deshmukh stressed the need for brevity of the Act, and a balance between the affiliating and teaching character of the universities. Dr. Bengalee, in her concluding remarks, expressed her happiness at the efforts of the academics for a productive university system and stressed that a continuous, ongoing dialogue was necessary between teachers, students, principals and university authorities for influencing the sagging image of the universities.

About 70 members of the teaching faculty of the university, its affiliated colleges and some teachers of the Shivaji University participated in the Seminar. Several Principals and Senate members also took park in the discussion.

Orientation Programme for College & University Teachers

A four-week Orientation Programme for college and university lecturers was organised from February 25 to March 23, 1991 by the Academic Staff College of the University of Jodhpur.

The programme was inaugurated by Dr. M.R. Gelra, Director of College Education, Rajasthan State. Dr. Gelra, in his address, exhorted the participants to take up the challenges of the present times and help fulfil the expectations of society. He said "The teachers can earn their due only when a halt is called to the crumbling values. In this the teacher has to play his role of restructuring and reforming the social fabric. He has to introspect and revaluate himself. In the world where knowledge, particularly science and technology are expanding at a fast pace, he will have to keep abreast of the latest and to this end he shall have to reorient his own attitude from being a teacher to a life long learner". He asked the teachers to set themselves as models to their students, create a positive attitude of understanding among them; supervising, advising and guiding them. Dr. Gelra complimented the Academic Staff College of the University of Jodhpur for playing a significant role in orientating the teachers to meet the future challenges of the society.

The main objectives of the programme as laid down by the UGC were to :

(a) understand the significance of education in general, and higher education in particular, in the global and Indian contexts;

(b) understand the linkages between education and economic and socio-cultural development with particular reference to the Indian polity where secularism and egalitarianism are the basic tenets of society;

(c) acquire and improve basic skills of teaching at the college/university level;

(d) understand the organisation and management of a college/university and to perceive the role of a teacher in the total system; and

(e) utilize opportunities for development of personality, initiative and creativity.

For the purpose of realisation of the above objectives, the programme was divided into six modules, namely, (i) Environment of Indian Education; (ii) Philosophy of Education and the Education system; (iii) Educational Psychology and Pedagogy of Teaching; (iv) Skills for subject Competency; (v) Organisational Behaviour and Personality Development; and (vi) Management of Education.

In Environment of Indian Education, group discussions were held on Social and Cultural Environment of Education, Political Environment of country, and on Economic Environment of Education. Lectures followed by discussions were held on Physical Environment and Ecological balance.

The Philosophy of Education and the Education System module comparised aims and objects of education including role of education, ethics of teaching profession, higher education and national development, national policies on education and the Ramamurti Committee Report as well as organisational pattern of Indian education with special reference to Rajasthan. Sessions were also held on formal and non-formal education, college, and community development, and rules and regulations regarding establishment of degree colleges.

A panel discussion which included Principals, Guardians and Students and teachers was arranged on 'Problems of Higher Education'. The core theme of discussion was the 'Expected role of a college teacher'.

Under module III, a brainstorming session was arranged on socio-psychological characteristics of college students, besides talks on learner and the learning process, motivation of students and teachers, teaching methodologies, media and educational technology (including computers), skills in teaching with emphasis on communication in general and classroom in particular.

Module III also included in-basket exercise, interacting video sessions, reflect exercises, microteaching, and participants communication skills analysis done by both peer group and experts. Sessions were also held on art of logical and creative thinking.

The Module IV emphasised on improving reference skills, research methodologies and implementing research in colleges, planning and organisation of syllabus and developing curriculum. A workshop was organised on framing objective type questions and lectures were organised on evaluation methods and examination reforms.

Module V was completed through Micro Lab., Image sharing exercises on students-teacher and teacher-Principal relations; group dynamics, team building, transactional analysis, conflict management, art of conversation, self development and lectures on etiquettes and manners.

The module VI emphasized on Modern management techniques for college teachers and student services. 'Student Handling' was discussed through a Case Study entitled 'Gherao of a College Principal'. Service Rules and general and financial management were also part of this module.

In all 13 methods were deployed for the orientation. These were Microlab., Lecture-cum-discussion, Group Discussion, Panel Discussion, Brainstorming, Behavioural games, In-basket exercise, case study, Interactive video method, self study, Book Review, Reflect Session, Workshop and Microteaching.

In his valedectory address Dr. V.N. Hukku, former Dean of the Faculty of Commerce, University of Jodhpur, asked the participants to meditate, collate and then imbibe what they had found useful in their Orientation training. He said that the teachers had to play the lead role in shaping the destiny of the country because of our proximity with the sourece of knowledge and future generations. Therefore, instead of treating our profession as a stop-gap arrangement to 'pastures anew' we must work with the zeal of a missionary, 'ever working, ever striving'. Knowledge is no one's monopoly, we must foster this urge into our students, he observed. Going to the classroom and delivering the lecture was not everything he said and added that a teacher should show a deep concern for his students, should give more information and knowledge than available in the textbooks. He should carry with him not only the knowledge enriched with his experience and erudition, but also a deep sense of commitment and discipline to serve his institution, and inspire his students and society.

National Seminar on Medieval Punjabi Literature

The Department of Punjabi, Kurukshetra University, organised a three day UGC National Seminar on "Medieval Punjabi Literature". The main aim of the seminar was to explore new insights of the Medieval Punjabi Literature. In this context, the resource persons drawan from various universities in Punjab, Haryana, Jummu & Kashmir and Delhi made a very relevant point that the Modern Punjabi Literature must be evaluated in the perspective of Medieval Punjabi Literature. While establishing the thread, it was observed that there was a rich heritage in the infrastructure of Modern Literature. Scholars also presented their papers related to the poetics of Medieval Punjabi Literature. Thematic analysis was also highlighted in the seminar. The major emphasis was to correlate the thematics and poetics of the Medieval Punjabi Literature.

The Vice-Chancellor of the University, Lt. General K. Balaram, P.V.S.M.(Retd.) in his inaugural address observed that although this age was of emotionless modern technology which was taking us away from the human values of life yet our language, literature and cultural heritage were such fields which not only made us aware of the realities of life but also tied the whole society in an emotional bondage of love and brotherhood.

The Director of the Punjab State University Text Book Board, Prof. Karnail Singh Thind whose research field is also Medieval Punjabi Literature, presided over the seminar. In his presidential address, he emphasised that the Medieval Punjabi Literature proved that any language did not snatch away anything from any other language but it instead enriched the process of communication. He further said that the languages like Hindi, Punjabi and Urdu could not be viewed individually.

The Registrar of Kurukshetra University, Kurukshetra, Prof. R.S. Singh who is from the discipline of English literature also spoke on the occasion. He stated that the Medieval Punjabi Literature depicted an emotional attachment among human beings and language and literature were the medias responsible for maintaining and further cementing this emotional bondage among masses.

Refresher Course in Sanskrit, Pali & Prakrit

The first subject-oriented Refresher Course in Sanskrit, Pali and Prakrit for university and college teachers was organized by the Academic Staff College of Kurukshetra University recently.

Dr. C.L. Kundu, Director, Academic Staff College explained to the participants the salient features of the programme sanctioned by the University Grants Commission under the National Policy on Education - 1986. He highlighted the role of teachers in shaping the society and building the future of the nation and stressed the need for teachers to be regular innovative agents of research and development. In unequivocal terms he laid stress on the study of Sanskrit language and literature for understanding India's spiritual and cultural heritage and her contribution to various fields including sciences and also for national integrity and universal brotherhood.

Dr. Maan Singh, Course Coordinator, introduced the participants to the Refresher Course in Sanskrit, Pali and Prakrit with the thrust area of intensive acquaintance with up-to-date studies and curriculum in Sanskrit, Pali and Prakrit. He acquainted them with the course components with their wide spectrum embracing almost all aspects of studies and research in various branches of Sanskrit, Pali and Prakrit. These included Sanskrit and Indian heritage, relevance of Sanskrit, Sanskrit education, Sanskrit linguistics, methods of teaching Sanskrit, Pali and Prakrit, manuscriptology and methods of critical editing, researches in various branches of Sanskrit, Pali and Prakrit by Indian and foreign scholars, Vedic literature and researches on Vedic themes, Sanskrit grammar (Paninian and non-Paninian) and researches thereon, orthodox and heterodox systems of Indian philosophy and researches done in the field, epics, Puranas, Kavya-literature, literary criticism and researches on Sahitya, Pali and Prakrit as languages and their literature as well as researches done in the field.

Dr A.P. Mishra, former Vice-Chancellor of Allahabad University in his valedictory address, informed the participants of various areas of Sanskrit still awaiting critical studies and research and urged upon them to devote themselves sincerely to Sanskrit studies.

Thirtysix participants from the universities and the colleges from the states of Assam, Bihar, West Bengal, Meghalaya, Karnataka, Kerala, Orissa, Uttar Pradesh, Haryana and Tamil Nadu participated in the course. Twentyfour eminent scholars addressed the participants on various aspects of Sanskrit, Pali & Prakrit.

National Convention of Architects

The Eleventh National Convention of the Indian Institute of Architects (IIA)was recently held at Lucknow. Hosted by the Uttar Pradesh Chapter of IIA, it was inaugurated by the State Governor, B. Satyanarayana Reddy. The theme of the convention was "Architecture and Legislation"

In his welcome address Mr. J.P. Bhargava, Patron, Organising Committee & Chief Twon & Country Planner termed it a historic event and called for a critical review of the legal framework for the creation and maintenance of a human environment. He asked delegates to think about safeguards for conservation and redevelopment of historical assets and cultural heritage.

IIA President Madhav Deobhakta highlighted the need to curb the use of the title, 'Architect' by unregistered (with COA) persons and stop the practice by some statutory bodies of inviting competitive bids and tenders from Architects. He stressed the need for greater representation of IIA on Education Policy panels being set up under the All India Council of Teachnical Education Act. He asked Architects to assume a more visible and crusading role in shaping our settlements with sensitivity to ecology and environment. He announced the recognition by IIA of the Govt. College of Architecture, Lucknow.

The Honourable Governor called for a better understanding of social, cultural and economic issues and optimum use of the environment. Regulations should promote health, security and ethical behaviour and not lead to monotonous, lifeless development. He asked Architects to take up the challenge and give new directions to improve the quality of life without spoiling the environment.

Avinashilingam Institute and NLM

The Avinashilingam Institute of Home Science and Higher Education for Women (Deemed University) has been involved in adult literacy Programmes. Eversince its inception efforts are being made by the university towards eradication of illiteracy and steps are being initiated in planning, implementing and evaluating the programme. Extension education efforts are also in operation for the community specially for the women.

The Institute conducts adult literacy programmes in following ways:-

(1) Adult literacy is incorporated in the curriculum of the Master's Degree and Bachelor of Education Degree course.

(2) Adult Education centres are organised under the UGC scheme.

(3) Teaching materials are produced.

(4) Motivation Programmes are undertaken, and

(5) Developmental inputs are linked with Adult Education for

socio-economic development.

As part of the National Literacy Mission efforts, Coimbatore District has been selected as one of the 40 Technology Demonstration Districts (TDD) in the country with the objective of making the 5.5 lakhs illiterate persons in the age group of 15-35 years in the district literate by the end of 1991.

The 'area approach' is being followed in which specific areas have been allotted to different interested groups. The first step was to identify the illiterate persons in the age group of 15 to 35 years in the allotted area and quantify them. A baseline survey was conducted by the student's using an interview schedule.

Based on the findings of the survey, a proposal was sent to the University Grants Commission requesting sanction for 100 centres under the 'Area based Approach'. The Commission agreed to provide financial assistance to the University for participation in the Adult Education, Continuing Education and Extension Activities on the basis of the New Guidelines framed by the Commission for the purpose.

Under the NLM Programme, the University has been running 100 Adult Education Centres, 2 Population Education Clubs and 10 Janashikshan Nilayams.

For the postgraduate students Adult Education has been made a curricular component in the place of Community and Social Service for 100 marks per semester.

Value Centre at BHU

Dr. Raja Ramanna, former Director of Bhabha Atomic Research Centre and former Union Minister of State for Defence recently inaugurated the newly created value centre at the Banaras Hindu University. Speaking on the occasion, Dr. Ramanna expressed concern at the valueless atmosphere prevailing in the country. At the same time he emphasized the need for creating new value system according to the needs of the new age. He conceded that science and technology had not been able to create new values. Dr. Ramanna opined that it was a difficult task to create new values in fast transforming societies. He said that we were fortunate in having such a rich cultural and philosophical heritage and added that the need of the hour was that we should collect precious stones of our heritage and leave the dead woods.

Dr. Ramanna was of the opinion that fast developments in science after second world war, had created enthusiasm and hopes, which had blurred the old value system. Among intellectuals it was thought to be backward to talk about value system. But even today science is not able to comprehend the human inclinations and complexities and we are looking to ancient heritages. He suggested that to create new values in different walks of life, we should accept certain common values. For this we have to work collectively. He cautioned that the moment we shall move forward cynics will raise hue and cry. This should not dishearten us, rather we should take it as our effective success.

Prof. R.P. Rastogi, Vice-Chancellor, BHU, who presided, said that the process of creating human values in Indian culture and history had started with vedas itself. In every veda, there is attempt to understand mental activities. At the same time they have emphasized the control of mind. With self realisation we have to take universal values everlasting. This will widen our thought horizon.

The Director of Value Centre Prof. A.N. Tripathi extensively dealt with the ethos behind the proposed centre. He said that with the start of this centre a cherished dream of Malviyaji was being realised.

Library Science at Undergraduate Level

The Gulbarga University, Gulbarga, proposes to introduce Library Science as an optional subject at the undergraduate level from the ensuing academic session. The Academic Council of the University has approved the proposal in this regard.

New Biopsy Technique Developed at AIIMS

A new foetal skin biopsy technique by percutaneous ultrasound method has been developed by Prof Kamal Buckshee, head of the Obstetrics and Gynaecology Department of the All-India Institute of Medical Sciences (AIIMS). The technique was presented and discussed at the recently concluded national symposium and workshop on foetal medicine.

Foetal medicine is a specialised field in medical sciences which deals with the prevention, diagnosis and treatment of the foetus in the mother's womb. It aims at the early diagnosis of congenital disorders including malformations, Down's syndrome and various genetic, metabolic and haematological disorders.

IIPA Essay Competition

The Indian Institute of Public Administration invites entries for the Annual Essay Prize Competitio 1991. The purpose of the Essa competition is to encourage origina and significant contributions to the study of public administration in al its aspects, especially in the Indian context.

The topics prescribed for this year's Essay Prize Competition ar (1) Secularism and Nationa Development; (2) Reservatio Policy; and (3) Right to Information. It is open to the competitors t choose any one of the topics.

Essays should be based on per- onal research or experience of the ompetitors and show evidence of riginal thinking and scholarship as ell as a critical analysis of the sub- ect.

The first prize is of the value of Rs. 2,000/-, and two second prizes of Rs. 1,500/- each. The essays written in Hindi will also be accepted. There will be separate prizes for Hindi and English Essays.

The last date for receipt of entries is July 31, 1991. Further details can be obtained from the Registrar, Indian Institute of Public Administration, Indraprastha Estate, Ring Road, New Delhi-110002.

News from Agril. Universities

Research Perspectives at TNGDNAU

The essential component that ensures required capability to meet the needs of the ever increasing population through increased production is the effective agricultural research system that is sensitive to the needs of time. The present agricultural research system in Tamil Nadu has been developed over the experience and experimentation which has undergone some major changes in concept, organisation and activities.

Since its inception the Tamil Nadu G.D. Naidu Agricultural University (TNGDNAU) has made rapid strides, both in concept and implementation, towards becoming an effective system. It is unique in producing linkages between the policy making authorities, the scientists, the developmental agencies, and the farming community.

The University has been practising project based research. The objectives contemplated in different schemes and the findings emanatingfrom them have opened an era of agricultural revolution in the state. The new areas of research that have received enhanced focus in recent years include water management, crop improvement in oilseeds and pulses, dryland technology, bio-fertilizers, post-harvest technology and horticulture.

The University has also intensified research on bio-technology, tissue culture, biological pest control, agro-forestry, seed technology, integrated pest/disease/nutrient management, agro-engineering, watershed management and environmental preservation.

The University is fully committed to solve the problems associated with the task of enhancing the production and productivity in agriculture and allied fields. In tune with the national consensus, the research focus is on the regional basis. In the background of agroclimatic variations and soil types, seven well defined agroclimatic zones have been demarcated in Tamil Nadu. There is a shift in the research focus from one of the main campus to regional stations and in solving location specific problems.

At present there are 2990 ongoing research projects that are being implemented at TNGDNAU in agriculture, horticulture, agricultural engineering and forestry. There are 269 research schemes that are in operation, 9 are International collaborative schemes and 30 are Government of India schemes. The highest number of schemes viz: 112, are plan schemes followed by ICAR coordinated schemes (45). In addition to it, 15 Non-Plan Schemes, 31 Schemes which are fully financed by ICAR, 21 Private Agencies Schemes and 5 State Government Schemes are being implemented.

The challenges for agricultural development in Tamil Nadu in the context of shrinking land and water resources are many. The demand on the services of farm scientists to solve current and upcoming new problems are day by day on the increase.

Biotechnology is expected to have its most profound impact on agriculture, both in the input sector (seeds, fertilisers, pesticides) and in the post-harvest technologies. The break throughs in science that permitted genes and thus heredity, to be identified and manipulated to our advantage have ushered in the biotechnology era.

In TNGDNAU, Post-doctoral programmes in selected disciplines have been started with a view to give fillip to basic researches.

HAU Convocation

Delivering the convocation address at the Haryana Agricultural University, the Prime Minister Shri Chandra Shekhar called upon the youths to contribute their might in forming a strong India so that the nation could achieve its ancient glory in all fields. He said that the youth could only lead the nation to the new light where there would be prosperity all around. Though we had achieved considerable progress in agriculture, the production of oilseeds had not increased commensurately with the increase of population, he opined. He called upon the scientists to evolve new technology with which the progress on the agricultural front may further be accelerated.

Addressing the graduates, the Prime Minister said that they were the beacon light for the society and they must utilise their energy for the upliftment of the poor and downtrodden strata of society. He lauded the role of Haryana Agricultural University in making the nation, especially the Haryana prosperous on all fronts.

Dr. Amrit Lal Chaudhry, Vice-Chancellor, in his report disclosed that 12 varieties had recently been released by the university in addition to the 102 high yielding varieties of cereals and vegetable crops since its inception. The new varieties WH-416 of wheat, MH-4 of groundnut, Haryana Channa No.1 of gram, Raya RH 819, RH 781, TH-68 of Toria, HHB 67 of highbrid bajra, HC 171 and HC 260 of forage sorghum and 3 varieties of medicinal plants viz. Mulathi No. 1, HI-5 of Isabgol and RH 49 of Rosha grass had become popular among the farmers of the region because of their adaptability to the different climatic conditions and high yielding and disease resistance qualities. He said that the university had met the requirements of the farmers in respect of improved seeds and livestock by producing 57000 quintals of improved seeds of different cereals and vegetable crops, and 35000 herds of crossbred animals and poultry birds. More than one lac farmers had benefited from the 5000 trainings and demonstrations organised in different parts of the state. Dr. Chaudhry said that to meet the emerging challenges, the university had initiated postgraduate programme in biotechnology and agro-forestry and proposals were under way to establish an advance centre in biotechnology where thrust areas of research in future would be on inter-disciplinary research covering tissue culture immunology, embryo transfer and disease resistance in plants and animals.

The University conferred on Shri Chandra Shekhar the honorary degree of Doctor of Science (Honoris Causa) for his outstanding contribution to the cause of Indian agriculture, rural upliftment and raising of socio-economic status of the downtrodden farming community.

950 degrees and 16 gold medals in the disciplines of Agriculture, Animal Sciences, Basic Sciences, Home Science and Sports were awarded at the Convocation.

M.Sc. (Ag) Horticulture Course

The Annamalai University has recently introduced a new M.Sc. (Ag) Horticulture course. The objective of the course is to impart advanced Scientific technologies in Horticulture to the graduate students of Agriculture, Horticulture and Forestry, meeting international standards, in the areas of propagation, growth and development, breeding of horticultural crops, nutrition and environmental horticulture, fruit, vegetable, spices and plantation crops. As a part of the academic curricula, research projects will be undertaken. The research areas cover a wide range of problems in production of fruits, vegetables and flower crops, breeding of vegetable crops, and bio-technology, environmental horticulture with a specific focus on coastal horticultural research.

The university has facilities for field oriented research in fruits (Banana, Mango, Sapota, Guava, Anona, Ber, Gooseberries, West Indian Cherry), tropical vegetables and flower crops with a huge build up of germ plasm collections. Green house and glass house are available and mist chamber, plant growth chamber and a biotechnology laboratory are being established to strengthen research in horticulture. The central instrumentation facility offers scope for the use of NMR, HPLC, GC Spectrophotometers etc. The computer center offers facility and help to researchers in horticulture for data processing.

News from UGC

Countrywide Classroom Programme

Between 22nd April to 30th April, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

22.4.91

"The Voyagaer : The Grand Tour U.S.I.A."

"Basic Principles of Accoun ancy - II"

"Permaculture.- I"

23.4.91

"The Life of Willia Shakespeare"

"How to Stand on Gia Shoulders - I"

"History of Tuberculosis - I"

24.4.91

"Wall Paintings of Darbar G Ram Rai"

"Biological Nitrogen Fix Current Status"

.91

"Scanner France"

"Folklore and Folkloristics - IV"

"Introduction to Sanskrit"

.91

"A Talk With Malar Shah"

"To Live or Not - A Talk on Suicide Prevention"

4.91

"Understanding Cinema - XV: Scene Analysis-II"

"More Than a Rock"

4.91

No Telecast

4.91

"Education and Training for Charted Accountancy"

"Permaculature - II"

.4.91

'Hour USA - The Health Century - The Fight Against Infectious Diseases I U.S.I.A."

"The Persuit"

IInd Transmission

4.00 p.m. to 5.00 p.m.

.4.91

"Little Knowledge is a Dangerous Thing (Answer)"

"INNOVATIONS : Putting Aside Pesticides U.S.I.A."

.4.91

"Plastics & Polymers in Daily Life - II"

"Media in Third World - V : Zambia"

"Retinitis Pigmentosa - A Dreaded Eye"

4.4.91

"Inside PC (Personal Computer)"

"The Glory That Was Baijnath"

"Herbarium - I"

5.4.91

"Programming in PASCAL Language - IV"

"Tour to the Library of Congress U.S.I.A."

"The Story of a Words - III"

26.4.91

"Planetarium - The Indoor Universe"

"Psychiatric Disorders - II : Schizophrenia"

"The Caspian People & Oil U.S.S.R."

27.4.91

"Understanding Cinema D : Editing"

"An Introduction to Terukkuuttu"

28.4.91

No Telecast

29.4.91

"Solids - I : Electrical Properties"

"Indian Ethos in Management"

"For Others Too Internationes, F.R.G."

30.4.91

"Hour USA - The Health Century - The Fight Against Infectious Diseases - I U.S.I.A."

News from Abroad

Funding Council for Further Education

Mr. Kenneth Clarke, the British Secretary of State for Education and Science recently announced that the Government would introduce legislation this autumn to form an independent sector for post-16 education from April 1993.

All further education (FE) colleges, including tertiary colleges, and sixth form colleges, will be taken out of local authority control and funded directly by the Government through a new funding council. The new regime will consist of a basic annual budget together with an element dependent on the numbers enrolled.

Mr Clarke said it would be designed to provide a "powerful incentive" to recruit additional students and reduce unit costs. FE colleges would also assume responsibility for some adult continuing education.

The Education Secretary said the colleges would work closely with the Training and Enterprise Councils, which have already been given specific responsibilities in work-related FE.

"They and the new independent colleges will have much to gain from close co-operation. The colleges will own their assets and employ their own staff. They will provide for an ever-increasing proportion of our young people the preparation they need for their working life in the rest of this decade, and in the 21st century," he said.

The colleges will be free-standing corporate bodies, vested with the land, buildings and plant they currently use. The Government intends to introduce legislation which would require all local education authorities to apply for the Secretary of State's consent for all disposal of land and buildings, used or held or obtained for or in connection with the propose of the institutions.

Mr. Clarke said the measures would serve to raise the status of further education and training, where Britain has lagged behind its major competitors.

"The further education colleges have a vital role in providing education and training for both school-leavers and adults. They have never in the past been given the attention that their importance in education policy would justify," he said.

Book Review

Scientific Creativity

P C Bansal*

Grewal, Avinash. Hypothesis Making and Testing Abilities. Agra National Psychological Corporation 1988, Pp. xvi, 259 . Rs. 120.00

The book under review forms the substance of a doctoral thesis and aims to investigate the nature and measurement of two processes of problem solving ability in science namely, hypothesis making and hypothesis testing and their relationship with cognitive and non-cognitive concomitants like intelligence, creativity, school achievement, age, sex, socio-economic and socio-metric status and size of family. The problem solving ability comprises observing, classifying, measuring, interpreting, predicting models, testing hypothesis, generalising and verifying. The hypothesis making ability (HMA) has been defined as the ability of problem formulation and hypothesis formulation wherein the person subjectively defines a particular problem and suggests his own anticipated forms of answers to some thought provoking and hypothetical problems. On the other hand, hypothesis testing ability (HTA) is the ability of searching solutions to problems, wherein the person subjectively hypothesises solution to problems and suggests experiments to test the same. These two abilities have been operationalised in terms of reflective thinking and as aspects of creativity. Here process approach in teaching is advocated which lays less emphasis on recall learning and puts the children in the role of young discoverers or inventors.

The study was influenced among others by the work of J.M. Atkin (1958) and N. Vaidya (1974). Atkin found that elementary school children hypothesised readily in science learning at elementary stage. Children in upper elementary grades tended to employ authority when formulating hypothesis. On the other hand, younger children tended to use observation as the basis of formulating hypotheses. N. Vaidya found that depending upon the nature of the problem, adolescent pupils contrary to J. Piaget were affected to a varying degree by the content of the problem. Moreover, if adolescent pupils were in a position to set up hypotheses, they also made comments in the form of arbitrary errors which has nothing to do with the solution of the problem. Further, barring a few fluctuating cases, the ability to test hypotheses did not appear among pupils from grade VI to grade VIII. From the literature survey, the author came to the conclusion that formulating of solution or hypotheses forming and searching of solutions or hypotheses testing have not received much attention of researchers. The studies of process approach in science are mostly developmental in nature and they have not treated hypotheses making and hypotheses testing as cognitive constructs which can be identified and measured.

The theoretical foundations of study has been discussed fr various points of view li philosophical, epistemologica psychological, psychometric, hi torical and educational basis. J Dewey gave the classification of th stages of reflective thinking. Jea Piaget identified four developmen tal stages. The subjects of the stud are in the Piaget's Formal Opera tional Mental Stage. At 15, the chil has logical propositions and reason by hypotheses which enable him t think hypothetically. He can iden tify the elements of a problem an can systematically explore possib solutions to a problem. He can als design simple experiments to tes certain propositions. N. Vaidy (1979) found the appearance o hump effect in problem solvin ability which means that adolescen after attaining maximum growth i respect of a particular menta process undergo a decline.

The sample for the study com prised of 355 boys and 200 gir studying in science group in cla eleven from 16 schools includin boys and girls, government an private institutions. Tests and que tionnaires included hypothes making ability test, hypothesis tes ing ability test, test of mental abili test of creativity, socio-econom status and socio-metric stat scales. School achievement was o tained through tenth class ann and eleventh class half yearly mar in aggregate and in science subjec For the benefit of the research the tests of HMA and HT alongwith response categories given in the appendices. The d has been analysed statistically.

The results indicate that H and HTA are correlated with int ligence,but the correlation betw intelligence and HTA is higher. the other hand, creativity sho higher correlation with HMA compared to HTA. Fluency fa is an important determinant

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MA, but originality is an effective omponent of HTA. Socio-onomic status has higher degree relationship with HMA. Similar-, socio-metric status and sex of the upils influence the HMA scores ore definitely. Popular boys and rls perform better on HMA test. oth HMA and HTA have higher nter-relationship with school perormance. HTA is influenced inverely by age.

The results of the analysis of ariance indicated that creativity, ocio-economic status, family size, ocio-metric scores and sex have een found to be significantly conributing towards the variance in HMA. On the other hand, inteligence, school achievement, age, family size and socio-metric status contribute towards the variance in HTA. The difference between the scores on tests of HMA of boys studying in private and government schools were significant.

. Factor analysis of the data using matrix rotation method gave rise to five factors – Divergent Production Ability; General Mental Ability, Socio-Education Factor, Hypothetical Thinking Factor and Development Factor. These five factors accounted for 77.49 per cent of the variance in the rotated factor matrix.

The author writes that the findings of this study have a deeper impact and relevance for the teacher training programme, classroom teaching – learning, process preparation of instructional material and testing and evaluation devices. Teachers under training may be acquainted with the work of this type, so that later they may be able to develop abilities like HMA and HTA among pupils. Pupil-teachers may be given training through micro-teaching approach for developing in children problem solving behaviour. Children are to be provided with such learning material through which they are motivated to think in different directions. Gagne (1970) has designed a curriculum of science based on a process approach. Interest may be inculcated in children in biographical approach to teaching so that they get motivated to think in different directions. The use of open-ended questions and tasks like incomplete figures and sentences, enables students to discover that they have worthwhile ideas. The production of material which requires the students to give divergent responses will be useful only, if it finds some place in our examination system. The training for creativity is an important and somewhat controversial issue. In this context, the author mentions programmes like Purdue creative programme and Total creative programmes for children of grades 1 to VI. Among other researches, the author has suggested that tests for other processes of problem solving in science viz. observation, inference, prediction and verification may be developed. The study has used mainly one factor, that is, fluency and flexibility to some extent in scoring the test responses of HMA and HTA. Other two modes of scoring viz. elaboration and originality may also be tried.

There are a few minor lapses. For example in the discussion of table 5.4 on page 143-144 pertaining to statistical differential scores of HTA among the high intelligence and low intelligence groups, the author has inadvertently mentioned creative, instead of intelligence. Again in table 5.5 the t value is shown as 1.76 but while discussing this table, the t value is printed as .76. A few references cited in the text are not found in the bibliography. Moreover sometimes the use of a number of statistical techniques may not give much additional information (analysis of variance and test). An index would have increased the utility of the book.

Notwithstanding these minor lapses, the book can be read with profit by a wide audience including academicians, researchers, teachers and administrators. Avinash Grewal has done a good job and deserves compliments for her endeavour. It will induce researchers to undertake studies in this and allied areas. The reviewer hopes that the author will come out with a monograph on scientific creativity. A useful contribution indeed.

Communication

Oldest College in Arunachal

Sir,

In the article 'Scheduled Tribes and Higher Education' published in *University News* of February 25, 1991, A.K. Dhan has wrongly mentioned (on Page 7 Para 3) "At the time of the establishment of NEHU, Arunachal had only one college in Itanagar, its capital".

In fact Arunachal has its oldest Degree college as J.N. College Pasighat and it was established much before the Itanagar college. The region followed more or less mechanically the system of education as had been in force in the contiguous state of Assam since independence till 1972. Therefore, establishment of NEHU has no relation with the affiliation of the college, as it was already affiliated with the Gauhati University, Guwahati (Assam).

Yours etc.
Satish Rastogi
and
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AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The Library has also developed Bibliography of Doctoral Dissertation as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in bibliography. Such Universities as are not sending us regular information in respect of Doctoral Theses accepted and research scholars enrolled are welcome to make use of these columns.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from periodicals received in AIU Library during March 1991

EDUCATIONAL PHILOSOPHY

Stark, Joan S and Lowther, Malcolm A. Exploring common ground in liberal and professional education. **New Directions for Teaching & Learning** 40, 1989, 7-20.

EDUCATIONAL PSYCHOLOGY

Shrimali, S S. Components of learning and what makes for good learning. **J Indian Edn** 14(6), 1989, 51-7.

EDUCATIONAL SOCIOLOGY

Seymour, Daniel T. Boundaries in the new higher education environment. **New Directions for Hr Edn** 68, 1989, 5-24.

EDUCATIONAL PLANNING

Bandyopadhyay, R. Education for an enlightened society: A review. **Economic & Political Weekly** 26(7), 1991, 359-72.

EDUCATIONAL ADMINISTRATION

Aper, Jeffery P and others. Coming to terms with the accountability versus improvement debate in assessment. **Hr Edn** 20(4), 1990, 471-83

Barak, Robert J. Colleges and state government:Problems or opportunities? **New Directions for Hr Edn** 68, 1989, 65-77.

Buchbinder, Howard and Newson, Janice. Corporate-university linkages in Canada: Transforming a public institution. **Hr Edn** 20(4), 1990, 355-79

Glover, Robert H and Mills, Michael R. Interinstitutional comparisons for decision making. **New Directions for Hr Edn** 68, 1989, 79-92.

Maassen, Peter A M and Potman, Henry P. Strategic decision making in higher education: An analysis of the new planning system in Dutch higher education. **Hr Edn** 20(4), 1990, 393-410.

Teitel, Lee. Managing the new frontier between colleges and companies. **New Directions for Hr Edn** 68, 1989, 43-64.

Tuijnman, Albert. Dilemmas of open admissions policy: Quality and efficiency in Swedish higher education. **Hr Edn** 20(4), 1990, 443-57.

CURRICULUM

Louis, Karen Seashore. Surviving Institutional change: Reflections on curriculum reform in Universities. **New Directions for Hr Edn** 66, 1989, 9-25.

TEACHERS & TEACHING

Apps, Jerold W. Foundations for effective teaching. **New Directions for Adult & Continuing Edn** (43), 1989, 17-27.

Centra, John A and Bonesteel, Peggy. College Teaching: An art or a science? **New Directions for Teaching & Learning** (43), 1990, 7- 15.

Conti, Gary J. Assessing teaching style in continuing education. **New Directions for Adult & Continuing Edn** (43), 1989, 3-16.

Frederick, Peter J. Involving students more actively in the classroom. **New Directions for Teaching & Learning** 37, 1989, 31- 40.

McKnight, Philip. The evaluation of postsecondary classroom teaching: A wicked problem? **New Directions for Teaching & Learning** (43), 1990, 57-62.

Trask, Kerry A. The chairperson and teaching. **New Directions for Teaching & Learning** 37, 1989, 99-107.

Wilkerson, LuAnn and Feletti, Grahame. Problem-based learning: One approach to increasing student participation. **New Directions for Teaching & Learning** 37, 1989, 51-60.

EVALUATION

Abrami, Philip C and Sylvia d'Apollonia. The dimensionality of ratings and their use in personnel decisions. **New Directions for Teaching & Learning** (43), 1990, 97-111.

Bentley, Richard and Blackburn, Robert. Changes in academic research performance over time: A stuy of institutional accumulative advantage. **Research in Hr Edn** 31(4), 1990, 327-45.

Cashin, William E. Students do rate different academic fields differently. **New Directions for Teaching & Learning** (43), 1990, 113-21.

Feinberg, Lawrence. Multiple-choice and its critics: Are the "Alternatives" any better?. **College Board Review** (157), 1990, 13- 7, 30-1.

Feldman, Kenneth A. An afterword for the "Association between student ratings of specific instructional dimensions and student achievement: Refining and extending the synthesis of data from multisection validity studies. **Research in Hr Edn** 31(4), 1990, 315- 18.

Franklin, Jennifer and Theall, Michael. Communicating student ratings to decision makers: Design for good practice. **New Directions for Teaching & Learning** (43), 1990, 75-93.

Gray, Peter J and Diamond, Robert M. Improving Higher Education: The need for a broad view of assessment. **New Directions for Hr Edn** 67, 1989, 89-107.

Ory, John C. Student ratings of instruction: Ethics and practice. **New Directions for Teaching & Learning** (43), 1990, 63- 74.

Sell, G Roger. An organizational perspective for the effective practice of assessment. **New Directions for Hr Edn** 67, 1989, 21- 41.

Theall, Michael and Franklin, Jennifer. Student ratings in the context of complex evaluation systems. **New Directions for Teaching & Learning** (43), 1990, 17-34.

VOCATIONAL EDUCATION

Pryor, Brandt W. Recruiting and retaining adult students in continuing professional education. **New Directions for Adult & Continuing Edn** (41), 1989, 35-48.

BOOKS & LIBRARIES

Petersen, H Craig. University libraries and pricing practices by publishers of scholarly journals. **Research in Hr Edn** 31(4), 1990, 307-14.

ADULT EDUCATION

Chater, Shirley and Hatch, Ann. Student, worker, mom on campus, in need. **Edl Record** 72(1), 1991, 32-7.

Donaldson, Joe F. Recruiting and retaining adult studentsin continuing higher education. **New Directions for Adult & Continuing Edn** (41), 1989, 63-78.

Fischer, Richard B. Higher education confronts the age wave. **Edl Record** 72(1), 1991, 14-8.

Jurmo, Paul. What needs to be done to build participatory alternatives. **New Directions for Adult & Continuing Edn** (42), 1989, 81-91.

Lytle, Susan L and others. Learner-centered literacy assessment: An evolving process. **New Directions for Adult & Continuing Edn** (42), 1989, 53-64.

Ross, Jovita Martin. Recruiting and retaining adult students in higher education. **New Directions for Adult & Continuing Edn** (41), 1989, 49-62.

Soifer, Rena and others. The academy: A learner-centered workplace literacy program. **New Directions for Adult & Continuing Edn** (42), 1989, 65-72.

Yarosz, Diane Roemer. Recruiting and retaining adult students in HRD. **New Directions for Adult & Continuing Edn** (41), 1989. 99- 105.

DISTANCE EDUCATION

Moore, Michael G. Recruiting and retaining adult students in Distance Education. **New Directions for Adult & Continuing Edn** (41), 1989, 89-98.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

BIOLOGICAL SCIENCES

Biology

1. Asok Kumar, K. **Studies on copepod parasites on Elasmobranchs of Kerala Coast.** CUST. Dr M Shahul Hameed, Prof and Head, Department of Industrial Fisheries, Cochin University of Science and Technology, Cochin.

2. Geetha, V. **Action of ultraviolet - A (365 nm) radiation on the photosynthetic apparatus of green and blue green algae.** Madurai.

3. Gopalakrishnan, K S. **Studies on the toxic effects of some pesticides on the fish,** Etroplus maculatus **Bloch.** CUST. Dr VJ Kuttyamma, Reader, School of Marine Sciences, Cochin University of Science and Technology, Cochin.

4. Padhy, Surya Narayana. **Grain size characteristics mineralogy and chemical composition of coastal sands of Gopalpur, Bay of Bengal.** Berhampur. Dr B K Sahu, Reader, Department of Marine Science, Berhampur University, Berhampur.

5. Renganathan, M. **Copper inhibition of photosystem II in isolated pea thylakoids.** Madurai.

6. Rengarajan, Kalpana. **Studies on the aetiology of elles disease Immunological and biochemical approach.** Madurai.

7. Sanjeev, S. **Studies on coagulase positive** Staphylococci **and** Vibrio parahaemolyticus **in selected items of fish, crustaceans and fishery products.** CUST. Dr Jose Stephen, Scientist (SG) Central Institute of Fisheries Technology, Matsyapuri, Cochin.

8. Simha, M A Devendranath. **Antibiotic - microbial interactions, genetics of nitrofurantoin resistance and possible mode of action of nitrofurantoin in** Escherichia coli. Madurai.

9. Vijayan, P. **Alteration of excitation energy distribution in thylakoid membranes of BASF 13-338 treated plants.** Madurai.

Environmental Sciences

1. Reju, M K. **Studies on haemolymph constituents of** Pila virens **Lamarch and the effects of pesticides on the activity pattern of selected enzymes.** CUST. Dr A Mohandas, Head, School of Environmental Studies, Cochin University of Science and Technology, Cochin.

2. Soni, Rajendra Prasad. **Studies on the environmental management of heavy metals and pesticides with respect to their toxicity towards aquatic organisms.** Calicut. Dr S A Abbasi, Prof and Course Director, Dr Salim Ali School of Ecology, Pondicherry University, Pondicherry.

Biochemistry

1. Ghosh, Subrata Kumar. **The status of roca, umus and umud genes of** Vibrio cholerae. Calcutta.

2. Parkhe, Kumudini Anand. **Immunochemical approaches for diagnosis of filariasis.** Nagpur. Dr B C Harinath, Department of Biochemistry, Mahatma Gandhi Institute of Medical Science, Sewagram, Distt Wardha.

3. Rajinder Kumar. **Characterization of human sperm membrane antigens and seminal plasma proteins to devise antifertility vaccine.** PAU.

4. Rao, Pragna. **Fundamental and applied studies on glycated proteins.** Mangalore. Dr T N Pattabhiraman, Prof and Head, Department of Biochemistry, Kasturba Medical College, Manipal.

5. Sherief, P M. **Biochemical investigations of fresh water fishes.** Kerala. Dr P A Kurup, Gouri Sadan, T C 4/1413, North of Cliff House, Kawdiar, Thiruvananthapuram.

Microbiology

1. Maheshwari, Satish Chandra. **Studies for development of alternative methods for testing potency of diphtheria and tetanus components in DPT group of vaccines.** HP.

Botany

1. Arora, Sanjeev Kumar. **A symbiotic germination, micropropagation and morphogenesis of some commercially viable and endangered orchids of India.** Panjab.

2. Ashwani Kumar. **Taxonomic studies on pyrenomycetous fungi of Eastern Himalayas.** Punjabi.

3. Bhattacharyya, Nandan. **Study of the structure and sequence organisation of DNA in a member of Solanaceae.** Calcutta.

4. Das, Sampasri. **Biochemical studies of different species of** Oxalis **in relation to their medicinal values.** Utkal.

5. Gaur, Sandhya. **Studies on the microbial population from the detritus of some aquatic weeds.** Durgawati.

6. Gupta, Shikha. **Fungi of Jabalpur Region with special reference to saprophytes.** Durgawati.

7. Jangala, Isaiah Nirmalkumar. **Ecological studies of certain ponds with reference to eutrophication and weed growth around Anand, Gujarat.** Patel. Dr B C Rana, Reader, University Department of Biosciences, Sardar Patel University, Vallabh Vidyanagar.

8. Joseph, Jose. **Studies on phillotaxy, apical organisation and bulbil formation in coconut.** Calicut. Dr N Neelakandan, Department of Botany, University of Calicut, Calicut.

9. Mohan Ram Rao, D. **Genetic analysis and characterization of semidwarf and dwarf mutants induced in indica rice,** Oryza sativa L. Osmania.

10. Nakul, Anamika. **Studies on the rhizobium symbiosis of chick pea, Cicer arietinum** and pigeon pea, **Cajanus cajan.** Durgawati.

11. Pathak, Shubha. **Comparative limnological studies on the dynamics of lentic hydrosphere of two ponds of Gaya.** Magadh.

12. Ravindran Nayar, P N. **Studies on black pepper,** Piper nigrum **L. and some of its wild relatives.** Calicut. Dr M K Nair, Director, Central Plantation Crops Research Institute, Kasaragod.

13. Ray, Jnanabrata. **Floristic studies of the district of Santal Parganas in Bihar.** Calcutta.

14. Saibaba, Arcot Mahender. **Anatomy, pharmacognosy and chemotaxonomy of Indian** Sida **L. (Malvaceae).** Osmania.

15. Sanyal, Debjani. **Investigations on the callus of** Nigella sativa **L. cultured** in vitro **in relation to some growth regulators.** Calcutta.

16. Sarvesh, A. **Genetic variability for callus induction, plantlet regeneration and stress among varieties of niger,** Guizotia abyssinica **(L.d) Cass.** Osmania.

17. Satyanarayan Reddy, M. **Chemotaxonomy of some Verbenaceae.** Osmania.

18. Sharma, Mamta. **Responses of certain economically important plants to vam fungi.** Delhi.

19. Siddiqui, Shakil Ahmad. **Studies on biological nitrogen fixation by** Azotobacter chroococcum. Durgawati.

20. Suresh Chander. **Study of genetical basis of chemical constituents in the essential oil of basilicum group of genus** Ocimum. Jammu. Dr S N Sobti.

21. Sureskumar, C P. **Genetics of clustered spikelet mutant and certain other morphological characters in rice,** Oryza sativa **Linn.** Calicut. Dr K Pavithran, Department of Botany, University of Calicut, Calicut.

22. Swarnalatha, N. **Ecological studies of algae of three lakes of Hyderabad, India, with reference to water pollution.** Osmania.

23. Vijaya Gopal, K. **Studies on higher fungi of few forest localities of Andhra Pradesh, India.** Osmania.

24. Yadav, Sheo Kumar. **Radiomimetic studies in** Brassica rapa

Magadh.

griculture

1. Apet, Kalyan Tukaram. **Defence mechanisms in groundnut gainst rust,** Puccinia arachidis Speg. MAU. Dr C D Mayee, Prof, epartment of Plant Pathology, College of Agriculture, Parbhani.

2. Archana Kumari. **Effect of root bacterization of rice with zospirillum at different levels of chemical nitrogen under agro- limatic conditions of Himachal Pradesh.** HP Krishi. Dr C R harma, Department of Soil Science, College of Agriculture, Palam- ur.

3. Banafar, Narayan Singh. **Influence of some macro and micro lements on growth, yield and keeping quality of onion,** Allium cepa L. CSAT. Dr G S Gaur, Assoc Prof, Department of Horticulture, handra Sekhar Azad University of Agriculture and Technology, anpur.

4. Barman, Alok Kumar. ***Studies on the weathering of silicate ninerals.*** Calcutta.

5. Bulbule, Satish Vithalrao. **Critical studies on the epidemiol- gy of rust of groundnut and development of epidemiological nodels.** MAU. Dr C D Mayee, Prof, Department of Plant Pathol- gy, College of Agriculture, Parbhani.

6. Chaubey, Ashok Kumar. **Nitrogen, phosphorus and sulphur utrition in linseed crop,** Linum usitatissimum L. CSAT. Dr K N Dwivedi, Assoc Prof, Department of Soil Science and Agricultural hemistry, Chandra Sekhar Azad University of Agriculture and Technology, Kanpur.

7. Dahiphale, Vinayak Vithalrao. **Effect of irrigation and itrogen on growth, yield and quality of sunflower,** Helianthus nnus L. **in rabi season.** Dr K R Pawar, Assoc Dean (Instruction), Marathwada Agricultural University, Parbhani.

8. Gurdeep Singh. **Inheritance of quantitative variability for il, protein and yield characters in** Gossypium arboreum L. PAU.

9. Mahal, Surjit Singh. **Crop, water and nutrient relationship tudies in Indian rape,**Brassica campestris **L. var toria.** PAU.

10. Pandey, Ajai Kumar. **Regeneration of sweet lime,** Citrus imettioides **Tanaka by stem cuttings with the aid of IBA and boric cid.** CSAT, Kanpur. Dr A R Singh, Assoc Prof, Department of Horticulture, Chandra Sekhar Azad University of Agriculture and Technology, Kanpur.

11. Piar Singh. **Studies on virus diseases of cucumber,** Cucumis sativus L. **in Himachal Pradesh.** Y S Parmar. Dr S C Chowfla, Department of Mycology & Plant Pathology, College of Horticulture, Nauni (Solan), HP.

12. Sen, Sunita. **Management of soil borne diseases in** Robinia pseudacacia **Linn nurseries.** Y S Parmar. Dr V K Gupta, Department of Mycology and Plant Pathology, College of Horticulture, Nauni.

Zoology

1. Balamani, E. **Studies on the ecdysial glands of** Spodoptera mauritia **Boisd (Lepidoptera : Noctuidae).** Calicut. Dr V S Krishnan Nair, Department of Zoology, University of Calicut, Calicut.

2. Bhalla, Shabnam Kaur. **Role of antioxidants in the biochemi- cal processes involved in ageing of** Henosepilachna vigintioctopunctata **Fabr.(Insecta).** Punjabi.

3. Bhanumathi, P. **Studies on - SH compounds in chemoprotection.** Calicut. Dr N B Elayidom, Prof, Department of Zoology, Farooq College, Feroke and Dr D M Vasudevan, Prof, Department of Biochemistry, Medical College, Trichur.

4. Ghosh, Anil Kumar. **A comparative study on certain biological and immunological aspects of different pathogenic forms of** Leishmania **of Indian origin.** Calcutta.

5. Ghosh, Asish Kumar. **Gene activity in aneuploid genome of** Drosophila melanogaster. Calcutta.

6. Ghosh, Ramkrishna. **Studies in DNA replication and transcription in** Drosophila virilis **and the problem of dosage compensation.** Calcutta.

7. Ghosh, Saswati. **Studies on the modulation of chromatin** ***template activity of the X-chromosome of Drosophila and evaluation of hyperactivity in dosage compensation.*** *Calcutta.*

8. Kundu, Rahul S. **Fibre identification and fibre growth dynamics of myotomal and fin muscles in relation to somatic growth in some marine fishes.** Saurashtra. Dr A P Mansuri.

9. Mercy, C A. **Postnatal growth and energy requirements of Japanese Quail,** Coturnix coturnix **Japonica.** Calicut. Dr D N Mathew, Department of Zoology, University of Calicut, Calicut.

10. Mutsuddi, Debasis. **Dosage compensation and replication in relation to sex transforming mutants and X-aneuploids in** Drosophila. Calcutta.

11. Saxena, Geeta. **Histological and histochemical changes induced by cadmium in a fresh water teleost,** Puntius sophore **(Ham).** Vikram. Dr S C Kothari, Department of Zoology, Vikram University, Ujjain.

12. Shrivastava, Nikhil. **Studies on integrated control of linseed bud fly,** Dasyneura lini **Barnes.** Durgawati. Dr O P Katiyar, Department of Entomology, Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur and Dr S C Pathak, Department of Bio-Science, Rani Durgawati Vishwavidyalaya, Jabalpur.

Medical Sciences

1. Das, Syamal Kanti. **Visceral reflexes of lower abdomen.** Calcutta.

2. Dass, B S V. **Effect of organomercurials pollution in animals: Efficacy of thiol compounds in the detoxication of methylmercury evoked enzymatic changes in the central nervous system of rat.** Saurashtra. Dr P P Sood.

3. Kamla. **Investigation on** Euphorbia prostrata **Ait.** Panjab.

4. Koul, Indu Bala. **A study on effects of interaction between dietary deficiencies of fat and vitamin 'A' in chemical carcinogenesis.** PGI.

5. Pasha, Syed Tazeen. **Studies on enzyme variation in Simian and human plasmodia and its antigenic analysis.** Delhi.

6. Singh, Jitendra. **Study of effects of synaptic transmission modulators of classical neurotransmitters and neuropeptides on the brain reward system and other basic behaviours.** Bangalore. Prof T Desiraju, Head, Department of Neurophysiology, National Institute of Mental Health and Neuro Sciences, Bangalore.

EDUCATION NEWS INDEX

A list of select articles and editorials on Education from newspapers received in the AIU Library during March 1991

EDUCATIONAL PHILOSOPHY

Chandrasehar, A. Education and power of knowledge. **Patriot** 9.3.91

EDUCATIONAL SOCIOLOGY

Basu, Bharati. Political socialisation to what extent? **The Hindu** 12.3.91.

CENSUS REVELATIONS (Editorial). **The Hindustan Times** 27.3.91.

Gore, M S. Education : Equaliser of opportunity. **Deccan Chronicle** 6.3.91.

EDUCATIONAL POLICY & PLANNING

Khullar, K K. NEP and the common school system. **Patriot** 6.3.91.

EDUCATIONAL ADMINISTRATION

Arif Ali. Competitive examination and interview. **The Assam Tribune** 13.3.91.

Fiayaz Ahmed, S. Student attendance in a changed scenario. **The Hindu** 5.3.91.

Mani, P. Needed more professionalism. **The Hindu** 26.3.91.

Susheel Rao, Ch. 3 teachers for one student at OU! **Deccan Chronicle** 5.3.91.

CURRICULUM

Husain, A. Towards a greener tomorrow. **The Pioneer** 17.3.91.

LANGUAGE & LANGUAGE POLICY

Advani, Sangita P. If it's tuesday, it's not English. **The Times of India** 3.3.91.

SCIENCE EDUCATION

Ramachandran, R. Freedom of science. **The Economic Times** 22.3.91.

DISTANCE EDUCATION

Pathusha, K M. Distance education : New vistas in collaboration. **The Hindu** 26.3.91.

TEACHERS & TEACHING

Gauthamdas, U. Needed more informal methods of teaching. **The Hindu** 12.3.91.

EDUCATIONAL RESEARCH

SCIENCE & RESEARCH (Editorial). **The Statesman** 9.3.91.

EDUCATIONAL EVALUATION

Balasubramanian, Arun. Battle with the books. **The Hindustan Times** 10.3.91.

Singh, M Raghuram. Valuation - aspects that matter. **The Hindu** 19.3.91.

ECONOMICS OF EDUCATION

ELUSIVE 6 PER cent (Editorial). **The Times of India** 13.3.91

GIVE MORE for education (Editorial). **The Hindustan Times** 12.3.91.

Irani, Madhavi. Towards greener pastures. **The Times of India** 10.3.91.

Ray, H N. Jobs for all : The challenge of the decade. **The Economic Times** 9.3.91.

TACKLING UNEMPLOYMENT (Editorial). **The Assam Tribune** 4.3.91.

LIBRARIES & BOOKS

Meena, C K. Changeless refuge of bookworms. **Deccan Herald** 2.3.91.

Mojumdar, Modhumita. Discovering the joy of books. **The Statesman** 3.3.91.

Saraph, Manjari. Bookworms, have an orgy. **Deccan Chronicle** 6.3.91.

ADULT EDUCATION

Abdul Huq and Narayanan, T R. Female literacy : A long way to go. **The Hindu** 19.3.91.

ALLIANCE FOR learning (Editorial). **The Tribune** 3.3.91.

Amrik Singh. Before mobilising the youth. **The Times of India** 23.3.91.

AND NOW, the good news (Editorial). **Indian Express** 20.3.91

ERADICATING ILLITERACY (Editorial). **The Pioneer** 12.3.91.

Kothari, Lalit. Literacy campaign in Rajasthan. **Indian Express** 31.3.91.

Kulshreshtha, Indira. Basic skills for rural women. **National Herald** 10.3.91.

LET US be literate (Editorial). **The Tribune** 10.3.91.

LITERACY : STUDENTS' role (Editorial). **The Hindustan Times** 11.3.91.

MAKING ADULTS literate (Editorial). **The Times of India** 7.3.91.

Nair, G Ravindran. Pragmatic approach to literacy. **Indian Express** 14.3.91.

Nuguid, Nati. Illiteracy disadvantages women. **The Pioneer** 4.3.91.

Pangotra, N N. Adult education : Some issues. **The Tribune** 10.3.91.

Parikh, Ramlal. Literacy - the debate continues unabated. **The Hindu** 5.3.91.

Radhakrishna Rao. Towards hundred per cent literacy. **The ssam Tribune** 9.3.91.

Tarlok Singh. Tackling mass illiteracy. **The Hindustan Times** 5.3.91.

WAR ON illiteracy (Editorial). **The Hindustan Times** 4.3.91.

ELEMENTARY & SECONDARY EDUCATION

Armstrong, Scott. School with a difference. **The Pioneer** 17.3.91.

Bhatia, D P. Dual system of schooling. **The Hindustan Times** 8.3.91.

EXAMINATION FARCE (Editorial). **The Hindustan Times** 25.3.91.

Gautama, G. To train all the 10 fingers. **The Hindu** 17.3.91.

Narasimhan, Sakuntala. Teaching them all the wrong lessons. **Indian Express** 31.3.91.

Pinto, Jerry. When education becomes oppressive. **Free Press Journal** 3.3.91.

Premchand, Vibha. Tough task of teaching pre-schoolers. **Deccan Chronicle** 7.3.91.

TRAVESTY OF education (Editorial). **The Times of India** 26.3.91.

COMPARATIVE EDUCATION & COUNTRY STUDIES

Gupta, Reeta Dutta. Unstudied programmes. **The Times of India** 24.3.91.

INSTITUTIONAL PROFILE

Dube, S N. For higher education. **The Hindustan Times** 30.3.91.

50 YEARS of aunique institution: The Delhi College of Engineering. **The Statesman** 10.3.91.

Jayant, P. Raman Research Institute plagued with controversy. **The Pioneer** 4.3.91.

Kothari, Sunil. Tagore worship: Rabindra Bharati. **The Economic Times** 8.3.91.

Nair, Prasanna C. Dream takes shape. **Deccan Chronicle** 10.3.91.

Prasad, Jeanne. SNDT. : Taking women from darkness to light. **Free Press Journal** 10.3.91.

Ramachandra Reddy, P. Sordid story of the women's varsity. **Deccan Chronicle** 3.3.91.

Yoder, Hatten S. Model of scientific freedom: The Carnegie Institute of Washington. **The Tribune** 10.3.91.

BIOGRAPHICAL PROFILES

Gandhi, Kishore. Multi-faceted personality : Madan Mohan Malaviya. **The Tribune** 3.3.91.

Ghosh, Dharani. Not an absent-minded professor. **The Statesman** 16.3.91.

Jayaram, A. Forgotten savant. **The Hindu** 10.3.91.

Lewis Angelo John. Breaking formal education bonds. **The Pioneer** 26.3.91.

Mojumdar, Modhumita. Teacher ahead of his time. **The Statesman** 31.3.91.

UNIVERSITY OF DELHI
Delhi 110007
Ref.Estab.IV/Advt./128/
Dated : April 3, 1991

Applications, on the prescribed form, are invited for the following posts which had earlier been advertised vide our advertisement No.120,122,123 and 124 dated 11.05.1989; 11.08.1989; 11.09.1989; and 27.09.1989, respectively. The applications must reach the Registrar, University of Delhi, latest by April 30, 1991. Persons who have applied in response to these advertisements earlier need not apply again. They may, however, supply additional information, if any:

PROFESSORS: Anthropology (3); Mathematics (1); Computer Science (1); Hindi (1); Geology (2); Psychology (2);

READERS: Linguistics (2); Chemistry (2); Physics and Astrophysics (1); Computer Science (1); Anthropology (2); Commerce (1); Hindi (1); Psychology (1); African Studies (1);

LECTURERS: Hindi (3); Linguistics (2); M.I.L. 'Telugu' (1); Physics & Astrophysics (2); Mathematics (1); Campus Law Centre (5) (Part-time); Anthropology (3); Commerce (1); Education (1).

RESEARCH ASSOCIATES: Botany (2); Centre for Human Resource Development (2); Psychology (1); Commerce (2).

OTHERS: Technical Officer in Botany (1); Senior Technical Assistant in Central Office (1); Workshop Superintendent in Physics & Astrophysics (1).

All details regarding prescribed qualifications and application forms for various posts can be had from Establishment Section-IV (Room No.205), New Administrative Block, University of Delhi, Delhi 110007, during working hours, either personally or by sending a self addressed and postage stamped (worth Rs.8/-) envelope (size 13 cm x 28 cm).

J C Kochhar
REGISTRAR

Indian Council for Cultural Relations

Applications are invited for the following posts at the **Indian Cultural Centres** abroad:

Kathak Dance Teacher-cum-performer

Bharatnatyam Dance Teacher-cum-performer

Vocal Music Teacher-cum-performer (Hindustani Classical and Light)

Sitar Teacher-cum-performer

Tabla Teacher-cum-performer

Qualifications and experience required: Candidates are expected to have high proficiency in the field acquired through institutional training or under the guidance of traditional gurus with "A"/"B" high gradation by AIR/Doordarshan, at least five years' experience of teaching and organising/staging public/radio/TV performances. Ability to converse in English essential. Candidates are requested to indicate proficiency regarding teaching/performing any other discipline of Indian classical/folk music and dance as appropriate, giving details.

Age: Between 30-45 years relaxable in exceptional cases.

Entitlements: Pay in the revised scale of Rs.2200-75-2800-EB-100-4000 plus foreign allowance; children education allowance; medical facilities; rent free accommodation; international passage and baggage allowance as admissible under the rules. Appointment will be made on contract/deputation for a period of three years.

Applications typed in English on quarto size paper indicating seriatim

1.Name

2.Present and permanent address

3.Date of birth

4 Marital status (Name and date of birth of each family member)

5 Educational/professional qualifications

6. Languages known

7. Field of specialisation

8. Professional training/experience (name of employer, post and nature of duty)

9. Present post, basic pay, scale of pay and date of annual increment

10. Participation in performances

11. Other relevant information

should be sent to the

Director General
Indian Council for Cultural Relations
Azad Bhavan, Indraprastha Estate
New Delhi 110002

by **10th May, 1991** at the latest.

Those in service should apply through proper channel.

Only short-listed candidates will be called for interview and practical demonstration at New Delhi.

AMRAVATI UNIVERSITY

Establishment Year : 1 May 1983
Vice Chancellor : Dr K.G.Deshmukh
Registrar : Shri G.L. Jagtap
Jurisdiction : Amravati, Akola, Buldhana & Yavatmal

Two Year duration Postgraduate Courses

1) Applied Electronics (2) Home Management & Extension 3) Physical Education (4)Business Administration & Management(5) Physics (6) Chemistry (7) Botany (8)Zoology (9)Geology (10) Statistics (11) Mathematics (12) Sociology

One year duration Postgraduate Courses

(1) Computer Science (Diploma) (2) Library and Information Science (Degree)

University Affiliated Colleges		112
No. of students appeared in the University Examinations in Summer 1990		88,370
No. of Examinations Conducted by the University in Summer 1990		229
No. of Employees in the University		188
No. of Teacher	17	
No. of Officers	20	
Class II Employees	131	
Class IV Employees	37	

REGISTRAR

r. BABASAHIB AMBEDKAR NATIONAL INSTITUTE OF SOCIAL SCIENCES, MHOW (M.P.)

ffice:54, ANAND NAGAR, CHITAWAD ROAD, INDORE - 452001) 461169

ADMISSION NOTICE

ne Year M.Phil Social Sciences; Total seats 25

ll time Ph.D Social Sciences; Total Seats 6 in the below mentioned seven thrust areas:

Reservation for S.C. and S.T for both courses is 15% and 7.5% respectively.

Both the courses are multidisciplinary in nature. The thrust areas are: (1) Dr.Ambedkar's Thoughts; (2) Scheduled Castes, Scheduled Tribe and Backward Classes Development; (3) Rural Development; (4) Women and Child Development; (5) Social Development and Justice; (6) Labour Welfare & Personnel Management and (7) Environmental Education and Research.

STIPEND

M.Phil: Nil; **Ph.D:** Rs.1800/- p.m. (only to those candidates who are not employed elsewhere)

ELIGIBILITY

1. **M.Phil:** Postgraduate degree in any subject with a minimum of 50% marks or equivalent grade (45% for SC/ST). Candidates appearing in Post graduate examination of 1991 can also apply.
2. **Ph.D:** A recognised postgraduate degree in any subject at the time of application with a minimum of 55% marks or equivalent grade and second class for candidates who have passed M.Phil.

SELECTION PROCEDURE

The selection for both the courses will be based on an entrance test consisting of a written objective type "General Aptitude Test" (common to both M.Phil & Ph.D) and an interview. The written test will be held at Holkar Science College, Agra-Bombay Road, Indore on Sunday 9th June, 1991 at 8.00 a.m. All the applicants will have to appear in the test and no information for this will be sent separately.

HOW TO APPLY AND LAST DATE

Desirous candidates should apply on plain paper, as per the proforma given below, along with a deman draft of Rs.25/- payable to "Registrar, Dr Babasahib Ambedkar National Institute of Social Sciences", payable at Indore. The last date for the receipt of the application form is **25th May, 1991.**

PLEASE NOTE

1. The candidates who want to apply for both the courses must send two separate applications. However, only one D.D. of Rs.25/- will be required to be sent.
2. Please bring all original documents at the time of written test for verification.
3. The candidates with postgraduate diploma will have to furnish proof that it is equivalent to post graduate degree.
4. The candidates are advised to send the application in person or per registered post on Indore address. No acknowledgement will be sent separately.

FORMAT OF APPLICATION FORM

1. Name with full postal address ———
2. Whether SC/ST (attach certificate)———
3. Course you want to apply (M.Phil or Ph.D)———
4. Demand Draft No.-Date-Bank———
5. Qualification: Higher Secondary + 2 onwards

(attach photocopies of the certificates)

Class	Year	Board/ University	Subject	% of marks obtained

6. Mention the thrust area: (for Ph.D candidates only)———

Signature of the applicant

REGISTRAR

CLASSIFIED ADVERTISEMENTS

The Maharaja Sayajirao University of Baroda

VADODARA

Notification No. ADE/1 Of 1991-92

Applications are invited for the post of REGISTRAR in the pay scale of Rs.3700-125-4700-150-5000. The post carries Rent Free accommodation and benefits of Pension including Family Pension, Gratuity, General Provident Fund and such other benefits and allowances, (such as Dearness Allowance, Compensatory Local Allowance) at such rates as are admissible to other whole-time employees of the University from time to time.

QUALIFICATIONS;

(1) A Master's degree with atleast 55% marks or its equivalent grade OR Master Degree with LL.B of any University.

AND

(2) At least 15 years of Teaching/Research experience in higher education.

OR

12 years of administrative experience of which 7 years as Deputy Registrar or on equivalent post.

AND

(3) Proficiency in English and Gujarati languages.

AGE: Maximum: 50 years.

GENERAL INSTRUCTIONS:-

(1) Prescribed application form can be obtained from the University Office on all working days between 11.00 a.m. and 2.00 p.m. upto 25.4.1991 on payment of Rs.12/- in Cash or Demand Draft (Rs.3/- for SC/ST) payable to the Registrar, M.S. University of Baroda, Vadodara-390002 alongwith self-addressed envelope. The candidates belonging to SC/ST will be required to pay the fees by way of I.P.O. or in cash in the University Office. The SC/ST applicants will produce a copy of certificate to that effect at the time of requesting for application form.

(2) Incomplete applications or those received late or on plain papers or those not accompanied by Demand Draft of prescribed fees will not be considered. The application fee once remitted is non-refundable. The fees paid by M.O. or IPO or by Cheque etc. are not acceptable. The application forms should reach on or before **15.5.1991** to the Registrar, M.S. University of Baroda, Vadodara-390002

By order

C.D.Gandhi

For I/C REGISTRAR

University of Kalyani

CORRIGENDUM

Ref. Adv. No. 1/91 dt. 7.3.91. The words "Assistant Registrar and " should be treated as deleted

P. Sir

REGISTRAR

SAHA INSTITUTE OF NUCLEAR PHYSICS

SECTOR-I BLOCK-AF BIDHANNAGAR
CALCUTTA-700 064 (INDIA)

39th Post MSc Associateship Course in Physics & Bioscience (1991-1992 Session)

Applications are invited for admission to the one-year Post M.Sc Associateship Course of the Saha Institute of Nuclear Physics in two streams:(1) Physics; and (2) Bioscience.

Eligibility:

(a) Physics: Master's degree in Physics. Candidates with Master's degree in Applied Mathematics/Engineering Sciences with good background in Physics may also apply.

(b) **Bioscience:** (1) Master's degree in Physics with specialisation in Biophysics/Crystallography. Candidates having specialisation in other areas of Physics with strong motivation in Bioscience may also apply.

Or

(ii) Master's degree in Chemistry with specialisation in Physical Chemistry/Biochemistry.

Or

(iii) Master's degree in Biophysics/Molecular Biology/Crystallography/Biochemistry (with Mathematics and Physics at the B.Sc. level).

Candidates currently appearing in their final examination may also apply.

Admission Test: Admission will be on the basis of academic records and performance in the admission test consisting of a written examination and interview which will be held in the month of July/August., 1991. The session is to commence in August/September, 1991.

Travelling Allowance: Candidates called for the admission test will be reimbursed return second-class Railway fare from their normal place of residence and will be paid D.A for one day only as per the rules of the Institute.

Scholarship and Hostel Accommodation: Selected students will be paid a scholarship of Rs.2200/- per month for the duration of the course. Limited hostel accommodation will be available.

Future Prospects: Students successfully completing the Post M.Sc. Course are likely to be absorbed as Research Fellows of the Institute depending on their academic performance and the availability of Fellowships.

How to apply: For application forms and prospectus, write to:

The Registrar

SAHA INSTITUTE OF NUCLEAR PHYSICS

Sector 1, Block-AF, Bidhannagar, Calcutta-700064

With a self-addressed envelope (25 cms x 11 cms) before 15th May, 1991. **Do not affix any stamp on the envelope.** Completed application forms must reach the Registrar, SINP by May 31, 1991.

D N Bhattacharjee

REGISTRAR

REFERENCE AND RESEARCH TOOLS

BIBLIOGRAPHY OF DOCTORAL DISSERTATIONS

Invaluable reference for those seeking to register for a Doctoral Programme

he bibliography is classified by subjects and covers e disciplines in which a doctoral degree is awarded e Indian Universities. Each entry gives complete ogrpahical details, viz., name of the research ars, title of the thesis, university/institute where the rch was conducted, years of registration and award gree, availability note-whether the thesis is avail- in the university library/department con- ed/university office and the name and complete ess of the guide/supervisor.

Comprehensive and exhaustive as the bibliography is, it not only reports the research being conducted at the university centres, but also includes research work done at the institutions of national importance, like the IITs, institutions deemed to be universities, like the Indian School of Mines, CSIR Laboratories as also the research establishments connected with ICAR and ICMR.

The bibliography is indeed a measure of the research output of the country.

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latural & Applied Sciences	Rs. 120.00
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latural & Applied Sciences	Rs. 100.00
ocial Sciences & Humanities	Rs. 90.00
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ocial Sciences & Humanities	Rs. 90.00

1979-80	
Natural & Applied Sciences	Rs. 130.00
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1980-81	
Natural & Applied Sciences	Rs. 180.00
Social Sciences & Humanities	Rs. 120.00
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Natural & Applied Sciences	Rs. 225.00
Social Sciences & Humanities	Rs. 150.00
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Social Sciences & Humanities	Rs. 160.00
1983-84	
Natural & Applied Sciences	Rs. 320.00
Social Sciences & Humanities	Rs. 180.00
1984-85	
Natural & Applied Sciences	Rs. 320.00
Social Sciences & Humanities	Rs. 200.00
1985-86	
Natural & Applied Sciences	Rs. 320.00
Social Sciences & Humanities	Rs. 200.00
1986-87	
Natural & Applied Sciences	Rs. 325.00
Social Sciences & Humanities	Rs. 245.00

BOOKS ALSO AVAILABLE WITH LEADING BOOKSELLERS IN THE COUNTRY

Address Enquiries to:

Under Secretary (Publications)

ASSOCIATION OF INDIAN UNIVERSITIES

AIU House, 16 Kotla Marg,
New Delhi-110002
Telephone: 3310059, 3312429, 3313390, 3312305
Telex: 31-66180 AIU IN **GRAM: ASINDU**

A.I.U. PUBLICATIONS

	Rs
1. Universities Handbook 1989	600.00
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6. Handbook of Agricultural Education-1986	40.00
7. Handbook of Distance Education-1990	30.00
8. Directory of Distance Education Institutions – Part I: India	225.00
9. Association of Indian Universities-1925-75	50.00
10. Association of Indian Universities-1925-85	100.00
11. New Technologies in Higher Education (HB)	120.00
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64. Monograph on Practical Examinations	30.
65. Monograph on Semester System	2
66. Research Abstracts-Part I, II & III Each	6.
67. Research Abstracts-Part IV	14
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87. Commerce	45.0
88. Political Science	60.0
89. Foods & Nutrition	25.0
90. Sociology	45.0
91. English Language & Literature	30.0
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93. Pharmacology	In Pres
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99. Agronomy	10
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106. Gymnastic Exercises for Men & Women	Each

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Association of Indian Universities

AIU House, 16 kotla Marg, New Delhi - 110 002
Telephone : 3310059, 3312429, 3313390, 3312305
Telex : 31-66180 AIU IN GRAM : ASINDU

NATIONAL INSTITUTE OF HYDROLOGY

JAL VIGYAN BHAWAN, ROORKEE

No.8/91-NIH (Admn.)

Dated: 27.3.91

Applications are invited for the following posts in National In-
ute of Hydrology (A Govt. of India Society under Ministry of
ater Resources), Roorkee from Indian Nationals satisfying
alifications and experience laid down therefor.

1. SCIENTIST 'E': 2 posts (likely to be increased) in the Area of
rface Water Hydrology/Drought Studies.

ale of Pay: Rs.3700-125-4700-150-5000. Total emoluments at the
ial of the scale is Rs.5485/- excluding HRA.

GE: Below 45 years.

alifications: ESSENTIAL:1. M.E/M.Tech in Water Resour-
/Hydraulics/Irrigation/Hydrology/Soil Water with 60% or 7.0/10.0
I in both B.E./B.Tech. and M.E./M.Tech. examination.

2. At least 10 years experience in teaching/research/design/inves-
ation and planning of which at least 5 years experience must be at
Scientist 'C' or equivalent level (pay scale of Rs.3000-4500) with
ven ability of conducting and guiding research and with experience
handling research problems.

SIRABLE:1. Ph.D. in Engineering for Engg. post graduate and
st doctoral work for Ph.D. in Science. 2. Publications in reputed
ional and international journals. 3. Corporate membership of
ofessional, scientific and engineering associations/societies.

SCIENTIST 'C': 8 posts (3 posts reserved for SC; 2 posts reserved
ST and 3 posts for general category) likely to be increased.

ea: (1) Surface Water Hydrology/Conjunctive — .6

(2) Ground Water Hydrology — .2

ale of Pay: Rs.3000-100-3500-125-4500. Total emoluments at the
tial of the scale is Rs.4530/- per month excluding HRA/CCA.

GE: Below 40 years

alifications: ESSENTIAL : 1. For Area(a) SURFACE WATER
YDROLOGY/CONJUNCTIVE USE: M.E./M.Tech. in Water
sources/Hydraulics/Irrigation/Hydrology/Soil and Water Engg.
h 60% or 7.0/10.0 CPI in both B.E./B.Tech. and M.E./M.Tech.
mination

For Area (b) GROUND WATER HYDROLOGY

M.E./M.Tech. in Water Resources/Hydraulics/Irriga-
n/Hydrology/Soil and Water Engg. with 60% or 7.0/10.0 CPI in
th B.E./B.Tech. and M.E./M.Tech. examination OR Ph.D. degree
Geohydrology/Hydrogeology with 60% or 7.0/10.0 CGPA in M.Sc.
mination.

Atleast 5 years experience in teaching/research/design/investiga-
n/planning in the relevant field at the level of Scientist-B, pay scale
Rs.2200-4000 or equivalent with proven ability of conducting inde-
ndent study/research.

SIRABLE 1. Ph.D. in Engineering for Engineering postgraduate
d post doctoral work for Ph.D. in science.

2. Publications in reputed national and international journals.

TE: 1. Time spent on Ph.D for Engineering graduate,
postgraduate shall be considered as experience upto a maximum
period of 3 years.

2. The qualifications regarding experience are relaxable at the
cretion of competent authority in the case of candidates belonging
SC/ST category, if at any stage of selection the competent authority
of the opinion that sufficient number of candidates from these
nmunities possessing the requisite qualifications are not likely to
available to fill up the vacancies reserved for them. 3. Selected
sons can be appointed on deputation basis also.

3. SENIOR RESEARCH ASSISTANT: 6. POSTS FOR THE
GIONAL CENTRE OF NIH OUT OF WHICH ONE POST
SERVED FOR ST AND ONE POST FOR SC

(No. of posts likely to be increased)

Age: Maximum 30 years on closing date.

Scale of Pay: Rs.1640-60-2600-EB-2900 (Total emoluments at the initial scale is Rs.2476/- per month excluding HRA, CCA)

Qualifications: A Bachelor's degree in Engineering in Civil with 1st Class/A grade OR Post Graduate degree in Physics/Chemistry after having Bachelor's degree with Physics, Chemistry and Mathematics with minimum of 1st class or A grade both at B.Sc. and M.Sc.

Note: The qualification regarding experience is relaxable at the discretion of the competent authority in case of candidates belonging to SC/ST. If at any stage of selection the competent authority is of the opinion that sufficient number of candidates from these communities possessing the requisite qualifications are not likely to be available to fill up the vacancies reserved for them.

The above mentioned posts carrying usual allowances as admissible under the Central Govt. rules. Age will be relaxable for persons already in service in the Institute and other Govt./Semi Govt./Autonomous organisations/retrenched employees of Defence Services and physically handicapped persons as per rules of the Govt. of India.

Age will be determined as on 25.3.1991.

Persons already employed in Govt./Semi Govt./Autonomous bodies should apply through proper channel. Applications not forwarded through proper channel may not be considered. Application in proforma given below duly completed in all respects in duplicate with copies of all testimonials alongwith an application fee in the form of Indian Postal Order of Rs.8/- (SC/ST candidates are exempted from the payment of fee) payable to the National Institute of Hydrology at the Roorkee University Post Office should reach the Administrative Officer, National Institute of Hydrology, Jalvigyan Bhawan, Roorkee-247 667, UP on or before 25.4.1991.

JOB LOCATION: ANYWHERE IN INDIA

Candidates should apply in following FORMAT in duplicate. The applications must be neatly typed on foolscape paper. Attested copies of certificates for educational, professional qualifications, experience etc. must be attached with the application form by the candidate.

FORMAT FOR APPLICATION

1. Post applied for
2. No. — — Date of IPO's — — Amount — — -
3. Full Name (Block Letters)
4. Father's/Husband's Name
5. Date of Birth — — Age: Years — — Months — — Days — —
6. Marital Status
7. Permanent address
8. Address for communication
9. Details of Educational qualifications (High School/Matric onwards)
10. Details of professional courses/Training etc.
11. Details of papers published/research work
12. Details of experience and employment
13. Whether SC/ST/Ex-serviceman/Handicapped
14. Name and address of two references (not related and who have been teachers or are superiors)

Certified that all information given in the application is true to the best of my knowledge.

SIGNATURE OF THE CANDIDATE

INSTITUTE FOR PLASMA RESEARCH

(An autonomous Institute of Dept. of Science & Technology)
GOVERNMENT OF INDIA
Near Indira Bridge, Gandhinagar Highway
BHAT, GANDHINAGAR - 382 424

ADVT NO. 01/91

The Institute for Plasma Research invites application from young, bright and motivated candidates for the following research programmes.

I. PH. D. PROGRAMME

II. SHORT TERM RESERCH PROGRAMME

This institute conducts research in plasma physics, free electron lasers, relativistic electron beams, non-linear dyamics, chaos and physics of solid surfaces. This research programme provides exciting opportunities and excelent facilities to work on high technology areas such as high power lasers, spectroscopy technology areas such as high power lasers, spectroscopy technology areas such as high power lasers, spectroscopy (visible, ultra violet, x-ray and mm - wave) ; laser induced flourescence; bolometry; X-ray tomography; nuclear detection techniques; interferometry; high current, high voltage pulsed power systems, sophisticated computer codes and numerical simulation.

PH. D. PROGRAMME

Candidates with M. Sc. in Physics/Applied Physics and those appearing in the final examination are also eligible to apply. Selection will be on the basis of personal interview and written test at the Institute and the travel expenses for the same by second class to & fro rail fare by shortest route will be provided. The selected candidates will undergo prescribed course work, mainly during the first year. The scholarship is Rs. 2200//- per month during the first two years and Rs. 2500/- per month thereafter after due and careful review and a noncumulative book grant of Rs.2000/- per year for a maximum period of five years. Normally the Ph.D. Programme is for 5 years. Deserving candidates may be offered regular positions in the Institute.

SUMMER PROGRAMME

Students of M.Sc. (Physics) who are now in their first year of study are eligible to apply for this programme. Selected candidates will be provided the opportunity to interact actively with scientists of IPR in the frontier research areas of Plasma Physics for six weeks from June 10 - July 19, 1991. The participants will receive a consolidated stipend of Rs. 1000/-, to & fro second class rail fare by shortest route and free hostel accommodation.

Applications for these programmes should sent to the Chief Administrative Officer at the above address within 20 days of the publication of this advertisement superscribing the envelope with advt. No. and the programme applied for in the following format. Candidates applying for Summer Programme must attach two letters of reference from their teachers.

Application Format

a. Programme Applied for, b. Name (in block letter), c. Place & Date of Birth, d. Age, e. Marital Status, f. Present & Permanent Address, g. Whether belong to SC/ST, h. Qualifications, starting from SSC onwards indicating exam passed, board/university, Subject, year of passing, division, percentage of marks obtained, rank in the University, i. Whether passed UGC/CSIR qualifying exam., j. Signature with date

The IPR reserves the right to reject any application without assigning any reason. Incomplete applications are liable to the rejected. No interim correspondence will be entertained.

Printed & Published by SUTINDER SINGH on behalf of the Association of Indian Universities, AIU House, 16 Kotla Marg, New Delhi-110002. Grams: ASINDU. Phones: 3310059, 3312305, 3312429, 3313390, 3323??? and 3712435. Telex: 31-66180 AIU IN
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ISSN–0566-2257

University
News

DAY, APRIL 22, 1991

Rs. 2.50

rteenth Convocation
AN SCHOOL OF MINES

Dr. Raja Ramanna, Director, National Institute of Advanced Studies, Bangalore, who delivered the Convocation address, receiving the Honorary Degree of D.Sc. (Honoris Causa) from Shri B.K. Rao, Chairman, ISM General Council and Executive Board.

ja Ramanna awarding a medal to one of the recipients.

MINISTRY OF HUMAN RESOURCE DEVELOPMENT

(Department of Education)

ES.3 Section

TURKISH GOVERNMENT SCHOLARSHIPS, 1991-1992

Applications are invited on plain paper from Indian Nationals residing in India for the award of 4 scholarships offerd by the Govt. Turkey (Eight months duration each, starting from 1.10.1991) in the following subject-fields:-

(1) Architecture, (2) Geological Engineering; and (3) Restoration and Preservation of Historical Monuments.

AGE : Must be less than 40 years on 1.4.1991. Age relaxable upto 2 years in upper age for SC/ST candidates. VALUE : 6,00,000/- Turk Liras per month. This amount has been fixed taking into consideration only a single person's requirements.

QUALIFICATIONS:

1. Architecture: Bachelor's degree in Architecture.
2. Geological Engineering : Master's degree in Applied Geology or in allied field.
3. Restoration & Preservation of Historical Monuments : Bachelor's degree in Architecture with 4 years experience in conservation historical monuments.

ESSENTIAL EXPERIENCE : (For courses 1 and 2 above)

(i) Atleast two consecutive years' study/teaching/research/practical experience as on 1st April, 1991 in the subject-field selected after obtain the prescribed qualification. Successful completion of M.Phil./Pre-Ph.D. course would be considered towards experience.

(ii) Fluent in Turkish, English or French. Candidates with the knowledge of Turkish Language will be given preference.

PASSAGE COST : Travel expenses from India to Turkey and back will be borne by the candidate or his/her sponsors/employers. Subject availability of funds, the passage cost may be met by the Govt. of India, provided the candidate is eligible under the rules.

NOTE :

(i) The following must be attached with the application:-

(a) Attested copy of the certificate certifying the date of birth;

(b) Attested copy of the marksheet of the qualifying exam; and

(c) Attested copies of all degrees/diplomas/certificates, etc.

(ii) Only candidates who secured 60% marks or more at the prescribed qualification are eligible.

(iii) Where Grades are mentioned, the candidate must indicate the conversion formula adopted by the University/Institution and should give equivalent parcentage of marks.

(iv) Equivalent foreign degrees will be considered.

(v) Candidates, who have already been abroad for study/research/training for more than six months at a time either on a scholarship or their own, are eligible to apply only if they have been in India for at least three years after return from abroad. Applications of candidates who are abroad, will not be considered.

(vi) Master's Degree means M.A./M.Sc./M.Tech./M.E. but not M.Phil. or Pre-Ph.D.

(vii) Candidate should have adequate knowledge of geographical situation, culture and heritage of India and Turkey.

(viii) Applications in subject-fields other than those prescribed will not be considered.

(ix) Candidates who do not possess the requisite qualifications need not apply.

(x) Employed candidates must send their applications through their employers with "No Objection Certificate", otherwise these will not considered. However, advance application wil be considered provisionally pending sponsorship by employers. Advance application must complete in all respects.

(xi) Applications, which are incomplete, will not be considered. Applications should be strictly according to the Format given below.

Candidates should apply for the above scholarship on a plain paper preferably typed or neatly hand written with a recent passport photograph, furnishing the following details/particulars to the Secretary, Deptt. of Education, Ministry of Human Resource Developmen ES.3 Section, Room No. 516, B-Wing, Shastri Bhavan, New Delhi-110 001 by **30th April, 1991.**

The applications received late will not be entertained.

FORMAT

1. Name of the Scholarship Scheme : Turkish Government Scholarships, 1991-92
2. Subject (Write any of the 3 subjects given in the Advertisement)
3. Name of the Candidate
4. Full Mailing Address
   (a) Present
   (b) Permanent
5. Nationality
6. Father's Name
7. Date of Birth, age in years and State to which the candidate belongs
8. Whether a member of SC/ST or a tribal or aboriginal community. If so, give full particulars.
9. Academic record starting from high school/higher secondary:

Affix photo here

Name of the University/ Board Institution	Examination(s) passed	Year of Passing	Division/Class with Position, if any. Otherwise, equivalent Class/Division may be given alongwith the Grades	% of marks obtained & position if any. Otherwise equivalent %age may be given	Subjects taken

NOTE: Where there is no Division/Class is awarded and only Grading done, the conversion formula adopted may be given.

10. Details of Professional Practical Training and Research Experience Specifying the period and number of papers published, previ employment with name and date of employment, if any.
11. Nature of the present employment with date of appointment, designation and the name and address of the employers.
12. Have you been abroad? If so, give full particulars of the country and the period. Also mention the year and month of return to India
13. Proposed programme of study/research/training, specifying
    i) the work at present engaged in:
    ii) nature and programme of study,
    iii) future plans/prospects after the proposed studies/research.
    iv) how are these related to the technical or economical development of India?

Place :

Signature of the Candida

Date :

davp

NIVERSITY
NEWS

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DER SINGH

MAY 1991
C. F. T. R. I., MYSORE

Education: An Interactional Activity

S.K. Verma*

Education is an interactional activity: teachers, learners, materials, methods, teaching aids and techniques in interaction in a setting. In this paper I am going to focus on teachers, learners, and 'setting'. By 'setting' I mean the socio-cultural context and the overall environment in which teachers and learners get together. By 'teachers' I do not mean classroom teachers alone: I mean every one who comes into contact with the learners – mum & dad, brothers and sisters, friends and relations, members of the society to which they belong. By 'learners' I mean living human beings, not puppets dancing to the tune of their masters. These learners are alive and active participants in the activity called education. They are meaning-makers. We must understand them – their needs, their desires, their problems and difficulties (physical, economic, social, educational) and then work out a programme or a set of programmes designed to help them draw out their latent abilities. What is crucial is not so much a change in their behaviour pattern as a change in our behaviour pattern.

Training is a multidimensional concept; it means making trainees familiar with the recent trends in their field; it means trainers and trainees wrestling with problems, finding solutions, and then theorizing; it means management. The role of a trainer is that of a coordinator, of a facilitator, of a friend, a guide, and a consultant. Looked at from this point of view trainers and trainees are both participants in an interactional activity which has been traditionally called "teaching-learning".

In this approach to training the focus is on the trainee and the learning process – not on ready-to-use tools and materials,but on materials and methods emerging out of interaction.

We have a very important, difficult and delicate role to play. We have to handle our human resources with love, understanding, patience and care. It is unfortunate that some writers have used words like 'disadvantaged' and 'backward' in this context. Our learners need a group of facilitators: teachers, psychiatrists, paediatricians, speech pathologists, therapists – all working together as members of one team. Every human child is born with a build-in potential to respond. You have to find ways for externalizing their latent powers and forces.

Language is central to education. All educational failure is linguistic failure. Language as a system of communication uses a variety of strategies: verbal (spoken and written) and non-verbal (paralinguistic gestures and sign systems). It has a network of interrelated phonological, syntactic, lexical and semantic subsystems. These subsystems are constituents of a formal system which interacts with a socio-cultural system – resulting in the use of language as a system of communication. For handling language effectively our learners need to have not only the ability to churn out grammatically correct sentences but also the ability to use words, phrases, and sentences appropriately: they should have both linguistic and communicative competence. How should we go about helping these learners? Make them talk, produce sounds and thus help them organize these sounds into meaningful sentences. A child learning language is at the same time learning other things through language – building up a picture of the reality

(Contd. on page 5)

**Director, Central Institute of English and Foreign Languages, Hyderabad- 500 007*

EDUCATIONAL WASTELANDS
A Threefold Challenge

D.A. Ghanchi *

Higher education in today's India is on the crossroads and is caught in an uneviable situation of glaring contrasts and contradictions which hamstring its functioning, and frustrate the aims and objectives of providing competent workforce to support and lead the movement for the development of the country so as to get it the place of honour in the comity of nations. To cite a few examples :

- On the one hand the system is faced with explosion in quantity of institutions, students and teachers; on the other it has to struggle to stop the downward slide of quality on all fronts.
- There is a mad rush, almost a wild scramble, for place in higher education on one hand; on the other there is an alarmingly growing incident of wastage caused by dropouts, by failures and by indifferent continuance in the system.
- There is also a demand for restructuring and modernising the courses and making them relevant to the needs of the country, but it is being deliberately frustrated by a strong bias for the status quo in the system, in the curriculum, in the methods of teaching and examination, and even in the routine management of the system.
- There is again an insistence on ensuring the highest standards of excellence and productivity on the part of the personnel as well as the physical resources invested in the system, but at the same time there is a serious handicap caused by an endemic resource crunch which would permit mostly a survival budget for institutions, whether colleges or universities, making it impossible for them to invest in excellence.
- And there is a gaping hiatus between the promise and the performance on the part of all involved in the enterprise of higher education, be they students, teachers, administrators or managers of the system. We hear of tall claims on the part of all perceiving education as a value-promoting nation-building activity designed to give a thrust to the process of development in concrete as well as abstract terms, but the actual output in the form of students and quality of work, production, character, skills, knowledge and commitment falls dismally short of these calims.

The educational scenario conjures up the imag
wastelands rather than a thriving nursery of t
different departments of knowledge, scholarsh
pertise and relationships. This leaves the min
hearts of all futilely agitated over non-realiza
dreams of higher education as a sort of helples
writ iarge on the face of everyone who is a victim
status quo.

Reasons for Prevalence of Wastelands

What are the reasons for this phenomenon
prevalence of wastelands in India's higher educa
Here are some :

1. We lack an honest clarity about the goals of h
education despite our periodical efforts at defining
articulating them since the Radhakrishnan Comm
of 1948-49. We are lost in the maze of the old an
new, having been miserably confused in the exerci
synthesising both, without demarcating the sco
each in the context of national needs. Even as l
the Ramamurti Committee (1990), for example, we
been fighting shy of displacing the degree as the
higher education and delinking it from jobs. We
not only the philosophical clarity but also the
courage and political will to put the degree in its pr
perspective in the context of the scheme of goa
higher education.

2. Whatever vague, imprecise and ill-defined a
higher education we try to evolve as individual in
tions, organisations or persons – students, teac
curriculum framers, administrators and others –
lack a full-blooded commitment to them that to re
them at the highest level of efficiency, we w
leave no stone unturned, be it scholastic learn
higher order cognitive abilities or creativity in inte
tual pursuits or skills of interpersonal relationsh
leadership in one's chosen field of study. We
not taken them seriously, even on their face value
allowed the standards of achievement on each o
them to go as low as they possibly but unfor
could. Take the coverage of a syllabus or a textb
an aim, howsoever unscientific and inadequate i
degenerates into rote learning, dictation of
memorisation of set questions and their ans
leakage of questions of a public examination, che
in the examination hall etc. What a perversion
innocuous statement of intentions of partial lea

Pro-Vice-Chancellor, North Gujarat University, Patan (N.G.)

ching and learning have been mercilessly
their essential discipline–that of punctuality,
ance, creativity, freedom and challenge. In-
ey have been allowed to degenerate into a
tual wherein even the physical attendance has
citement and relevance, let alone a full-fledged
ent by teachers and students into the process.
iest side of this degeneration is the loss of
l and moral sensitivity which make the waste-
classrooms and campuses more frightful.

rthly, a healthy sense of stake of the community
education has diminished alarmingly; there's
of pathological interest though. For example,
ial interest in making a fast buck has escalated.
he tuition classes and teaching shops, or at the
ns charging donations or capitation fees for
n, appointment, promotion, and a number of
vices, let alone favours. Mark the instances of
political interferences in the routine proces-
stitutions. We are also not unaware of the
caused in the climate of educational campuses
ountry by the politics of power, money and
The community has ceased to feel a sense of
evulsion or righteous indignation at these
tions which is taken as its tacit consent to these
goings on, which have been increasing day by
en a community abdicates its right and respon-
in any sphere of its activities, particularly of
n, it imperils the fate of its posterity. This is
ctly we are engaged in, unfortunately.

tly, the low priority given to education in the
agenda of the country betrays the attitude of
nce to this vital developmental activity. It is
t merely to higher education, but education in
also, as seen in the low outlay of about 3%
ed from the Gross Domestic Product (GDP) in
us five-year plans. Of late, higher education is
gled out for a reduced allocation to supposedly
cause of universal primary education thereby,
are rivals. This smacks of a punitive attitude
y reflected in the formulation of policies both
g perspective planning, and regarding day-to-
inistration, management and finance of higher
n. And, once the feeling goes round that higher
on does not merit as much attention and
e as other stages of the educational ladder,
iate policy messages are caught by persons
at different rungs. The wastelands, then, cease
concern in the minds of all those who should
concern.

s Prospects

ominous prospects do the wastelands in higher
n hold for us? Let's picture a few of them :

the phenomenon of wastelands in higher education generates a feeling of inner barrenness, a sense of psycho-moral aridity in all connected with higher education. A person operating in wastelands loses his productivity and creativity despite all his efforts and inputs. Year in and year out the system of higher education has been operating mechanically. Academic sessions are launched, conducted and terminated. What is missing is the spirit of adventure, of fulfilment, and of proud achievement. This is reflected in the lacklustre climate prevailing in institutions of higher education freezing the productive potential of its human resource. As a result, we find that the net output of new knowledge, innovations, experiments and genuine research is negligible, particularly in soft faculties like Arts, Commerce, Science and Education.

Secondly, wastelands generate a psyche of emotional deprivation, for there is intellectual insensitivity to what is happening all around. By limiting his perception a person diminishes the scope and intensity of his emotional responses and, thereby, he impairs his personality which consequently shows manifestations of undesirable behaviour like depression, aggression, withdrawal, etc. Existence of these emotional disorders among students and teachers would be reflected in behaviours like provocation on the slightest pretexts, strikes for flimsy reasons, agitations over insignificant issues, and so on. Drug addiction is also traceable to emotional impoverishment.

Thirdly, sociologically wastelands lead to fractured relationships amongst individuals. The warmth and intimacy that should pervade interpersonal relations give place to chill and distance in a climate of intellectual and emotional indigence. Any human society, and academic community in particular, disintegrates in such a withering climate. When institutions and campuses become hotbeds of rivalries and battle-grounds for power, seeds of disaffection are sown automatically amongst their members. This happens when empathy, understanding and affection disappear from relations between human beings.

Fourthly, wastelands do not permit genuine learning to occur, for such learning is the function of a creative interaction between the learner and his environment which includes his teachers and peers. Such interaction occurs most in a climate that is intellectually invigorating and socially integrative. As seen above, these ingredients are absent in the climate of wastelands.

Finally, economically it is wasteful of precious resources to plough them in an unreceptive soil. The educational scenario in our universities and colleges lacks in conditions conducive to maximal productivity even in material terms, let alone abstract ones. Our products, the students earning degrees and leaving the portals, do not measure up to the expectations of their potential employers in terms of their knowledge, skills and attitudes. It will not be an exaggeration or even self-denigration to say that we produce an unfinished product that is unemployable in the context of modern market imperatives.

The wastelands in higher education, thus, constitute a great threat to the very existence of our nation. No self respecting, forward-looking nation can view with equanimity the prospects of wasting tremendous human resource of four million students, two hundred thousands teachers and millions of rupees worth of physical resources invested in higher education, for the destiny of a modern nation is inevitably linked with the quality of higher education it imparts to its youth.

Three-fold Challenge

Thus the Educational wastelands pose a massive challenge to the nation. It is a three-fold challenge involving the following dimensions:

(1) Containment of existing wastelands

(2) Reclamation of those wastelands

(3) Prevention of the phenomenon of wastelands

It is our experience that with the passage of time, wastelands in Indian higher education have expanded all over India. For example, the non-viable colleges comprise around 50% of the total number of colleges in the country. Drop-out of students in a three-year degree programme varies between 30% and 50%. This range increases at the postgraduate level, particularly where P.G. teaching is done at centres located in affiliated colleges rather than at the university departments. Extension, research, innovation, materials production and creative activities by the faculty members have decreased considerably. Proliferation of such wastelands must be contained through imaginatively designed action programme.

Strategy for Containment

The strategy for containment may consist of the following measures :

(1) A nationwide snap study of the extent of wastelands in higher education and identification of institutions, programmes and practices that give rise to the phenomenon of wastelands.

(2) An institution-specific diagnosis of the sickness of the existing patients and a quarantine therapy to restrict the scope of damage it is presently doing to the system and society. This must lead to increased consciousness on the part of the patient of its ailment and a will to control its spread.

(3) A crash programme to treat the borderline of institutions that are prone to develop into wastel in the near future for various reasons, and save th from turning into such for want of timely guidance help.

(4) A moratorium on the establishment of new institutions and embarking on new programmes and activities for a definite period of time.

(5) Lastly, a movement should be build up through media as well as platform to increase community awareness of the phenomenon of wastelands and the natu damage they entail. This will be an effective antidote the mushroom growth of institutions, courses, programmes, faculty, student population, etc.

Strategy for Reclamation

Along with an aggressive containment movement there should be a sustained activity to reclaim whatever wastelands we can for they have consumed a sizeable investment in terms of resources, workforce, energy. The strategy of reclamation should involve steps like following :

(1) Preparation of priority lists of institutions programmes, courses, etc. according to th amenability to respond to suitable therapeutic treatment through a phased programme in a given time frame, say five to ten years at the most.

(2) Preparation of package programmes to tr specific ailments like plant inadequacies, personnel shortages, paucity of survival finances, poverty of instruction, malpractices in examinations, and so on.

(3) Crash programmes for attacking and eliminating minor aberrations with the support of students, teachers and the community. This may include face-lift projects for campus environs, removing unauthorised occupants from hostels, improving study habits vitiated by cheap notes, and market literature, etc.

(4) Formation of educational complexes to give moral support to the reclaimed institutions with the of renowned ones who have a high credibility. publicity and recognition must be given to those have been reclaimed and won over so that their re tion is encouraged.

(5) Finally, convalescence should not be a lo than necessary process. Institutions reclaimed sh be put on par with healthier ones in respect of development aid and assistance. Special enrichmental stra must be evolved for the purpose.

Strategy for Prevention

By all considerations of ideals and expe ntion is better than cure. Hence, a dynamic policy ducation should be promised on building up a hy system with a built-in provision to withstand ges of time and onslaughts engineered by man's ies – his greed, negligence, indulgence, political duggery, or even criminal tendencies. The history e expansion of wastelands in higher education in a has ample evidence of the havoc wrought by erous non-educational forces in turning many fer- academic fields into wastelands. To prevent the rrence, it is recommended that the following sures be adopted :

1) A comprehensive long term perspective plan of er education should be prepared in the context of all manpower planning. Such plan should take a ict as a unit. There should be a network of state and onal plans.

2) Based on the perspective plan should be pared a blueprint for implementation for every ersity on a given regular time- frame.

3) State and National councils of higher education uld be charged with monitorial functions for the lementation of district plans and university blue- its, their coordination and evaluation.

4) Alteration models of institutions, both colleges universities, should be developed. The UGC, for mple, has prepared guidelines for affiliated colleges. se may constitute the starting point of a movement ultimately preparing alternative models of institu- is. Within a given time-frame all the existing institu- is be helped to get converted into one or the other able model. No new institution should be allowed e established unless it is modelled on one or the er specimen.

(5) The system of accreditation should be introduced he earliest. The UGC has, fortunately, initiated the a, but it has not been pursued with sufficient zeal and our. Suitable accreditation structures and proce- es should be evolved and enforced at the earliest.

(6) The humanware of institutions of higher educa- n should be kept in the best form and health. This uires a concerted drive. Quality teaching in accord- ce with the latest findings on learning should be a right the students and an obligation of every teacher. Com- ehensive student services should go a long way in reasing student potential for learning and develop- nt. Similarly, faculty development programmes uld go a long way in boosting the teachers' morale and strengthening their professional competence. The C has several projects on hand, including the ademic Staff Colleges. These need to come out of ir ruts, develop teeth and make an impact. There can be no half-way house between promise and performance, on the parts of all – students, teachers and administrators.

(7) Finally, the hardware of institutions must conform to norms that should stimulate self-learning, develop higher order thinking and encourage creativity and research. Plant facilities, libraries, laboratories, audio-visual technology, etc. are the inputs that fertilise the intellectual soil and thwart the onset of wastelands.

Conclusion

To conclude, in order that institutions and their campuses become a vital community of learning, they must fulfil the five principles enunciated by Earnest Boyer, President, Carnegie Foundation for Advancement of Teaching. They are :

1. Campuses should be purposeful communities. They should not be limited to the credentialling process.
2. Campuses should be just communities.
3. Campuses should be open, honest communities.
4. Campuses should be disciplined communities.
5. Campuses should be caring communities.

Once our campuses transform themselves into such vibrant, dynamic and self-propelled communities, there will be no fear of their being overtaken by the scourge of wastelands which presently afflicts them.

Education : An Interactional Activity

(Contd. from page 1)

that is around him and inside him. A child's performance may give us the impression that he is reproducing 'information', but what looks like reproduction is, in fact, recreation; for a child's performance is like that of an artist, of a creative photographer, who has his own built-in 'camera', 'lens', and 'filter'. Children recreate the reality they perceive rather than passively 'receive' or 'reflect' it. Language learning involves a progression from total dependence on the teacher and the context to a mature independent relationship.

It is sad and unfortunate that in the field of education we have been consumers and not producers. We have been exporting our talents and importing 'ready-to-use' and 'made-to-measure' packages of knowledge based on settings and experiences entirely different from ours. As teachers we should make ourselves familiar with the current trends in the field of education but we must have the confidence derived from field experience to change, modify, and expand the existing models or to come out with a new model based on our needs, our problems, our limitations, and the socio-cultural environment in which we are teaching.

Financial Administration in Universities

Need for a Pragmatic Approach

Sanjay Shankar Kaptan*

The Major Shareholder

Education represents one of the largest industries in India, running at an annual expenditure of about Rs. 40,000 millions with more than 200 million pupils on roll and about 3 million teachers spread all over in about 750 thousand educational institutions. Thus, huge material and non-material resources go into education, the education process takes place and education yields some output. So education system can be rightly treated as an industry or a group of industries in the economic sense, producing manpower with a range of skills, young people as the intermediate products, moving from one part of education system to another and the rest of the economy outside the educational system can be called the final recipient of the products of this industry.

In this educational edifice the share of the higher education is of crucial importance. There are about 190 universities and about 7000 colleges in India. About one-third of total government expenditure (direct) on education goes to this sector.

Growing concerns

Almost all universities in the country whether central or state, whether affiliating or non-affiliating, whether old or new, whether general or professional, whether located in a metro or rural areas have been in financial crisis of varying degrees, for quite some time and it is increasingly believed that the crisis will continue unabated for some time atleast in the near future.

The resources that are being poured in the university system have been increasing at a faster rate, faster than the general economic indications. But at the same time, the requirements of the universities have been increasing at a much faster rate, widening the gap between the two continuously. This situation of increased cost and diminisned income was forecast as early as in 1949 by the Radhakrishnan Commission on University education in India.

In the last few years, there has been a significant growth in student population, number of new departments have been added, new courses have been incorporated. These factors have increased the budget requirements tremendously. The income side on the other hand has remained very inelastic, thus making the job of finance department extremely delicate and difficult.

The outdated costing, accounting and administrative policies are equally responsible for poor quality of financial administration of universities. The Education Commission disfavoured rigidity in such matters in these words – "what is worse, rules, procedures and techniques once adopted tend to be continued indefinitely in their original form even when changed conditions and circumstances have made them obsolete or incompatible with the real needs and interests of the institutions". Most of the universities have not yet adopted modern techniques of financial planning. The multiplicity of functions and burdens, growing complexities of laws, resolution, statutes, and ordinances have made the role of finance officer and finance department very difficult.

Financing of universities has undergone a significant change both in magnitude and pattern with the coming into existence of the University Grants Commission. Universities have varying records of current (maintenance) and development expenditure. Depending upon the size of the block grants given by the State/Central Government and the development grants given by the State/Central Government to match the financial assistance given by the University Grants Commission (UGC) they differ in their financial strength and stability.

No attempt has been made to probe into the structure of university finances relating it on the one side to cost and on the other side to its performance. The financial relation between the university and the University Grants Commission and that between university and the government has also not been reviewed giving form and content to financial transactions and analysing their working for identifying the problems for reform.

The pattern of assistance and the criteria adopted by the University Grants Commission and the State

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rnment have to be studied in depth for assessing
suitability and adequacy for meeting the growing
s of higher education for more funds.

is now time to have a close look at the present
ion of financial administration of universities.

s of Reforms

idian universities have to play a leading role at a
when we are on the threshold of the 21st Century.
time to think of a change in the policy and to
ulate revised schemes of financial administration
will go a long way in modernization of university
inistration.

estructuring the Role of Finance Officer

unctions of finance officer in a university combine
three basic duties that of being Chief Accounts
cer, Head of Finance Department and that of
ncialAdviser to the Vice-Chancellor and Executive
ncil. This multiplicity of jobs and varied nature of
gnments makes his job more complicated. Hence it
ggested that certain reforms be brought in the job
ents. The role of Finance Manager has to be un-
tood in the background of the development of the
nomy as a whole. It is necessary to promote an
reness of modern techniques of financial manage-
t. Efforts have also to be made for the identification
e understanding of the new role and responsibilities
ne finance officers in the development of univer-
s.

roper Allocation of Funds

Vhile the revenue and expenditure of universities
have gone up considerably, how the components of
nue and those of expenditure have behaved over a
od in the aggregate and *inter se* have important
lications for the growth of higher education as well
ne methods of financing. It is therefore to find out
mum level of funds to be allocated among different
vities. The growth of revenues, predominance of
ain sources like grants, the role of fees, and their
nging importance, fluctuations in revenue and ex-
diture and their impact on study facilities in relation
he growth of enrolment, equity in the provision of
ly of facilities among different disciplines in the
st area of improvement and development.

pplication of Zero Base Budgeting

The practice of giving insufficient grants by the state
ernment on the norms based on previous years ac-
expenditure will have to be drastically changed to
eve the burden on the state universities. The Zero
e Budgeting already adopted in certain universities
be extended to others as well. This will certainly help in better allocation of funds to the projects which really need help.

4. *Adopting Proper Tools of Costing University Services*

The costs of higher education are to be determined not only in the aggregate but also for different courses of study and the methodological problems in their calculation have to be sorted out. There is a growing gap between the cost of higher education and the fees charged despite a several maladjustment between the output of the university and the needs of the economy. A more scientific, rational and appropriate tool of costing the university services should be devised. This will facilitate meeting the expenses and income properly and avoid deficits, due to low amount of grants.

5. *Need of Depreciation Fund*

It is a well known fact that assets like equipment, building, machines and the like depreciate and have a specified life and are required to be replaced. Under the present system of financing, the UGC does not make any provision for creating Depreciation Fund which could meet the situation as and when an asset created out of plan grant has outlived its utility. Therefore, it is necessary that certain percentage of original cost of asset/machinery/equipment is set apart on the basis of well defined norms.

6. *Interest on Short Term/Long Term Deposits*

Quite often funds received from various sources by the university either from UGC or from the Ministries or under any Scheme are not immediately utilised and therefore, from the view point of better management of resources funds are invested in short or long term deposits which earn interest. Such interest is, however, treated as a part of income and deducted from the grant due with the result that the advantage of better financial management by the university is not accruing to the university itself. A case could be made out to the UGC/Central Government or state governments, as the case may be, to allow the interest to be credited either to depreciation fund or kept as earmarked for campus development, students amenities and the like which are not provided for under the maintenance grant.

7. *Mobilizing Non-conventional Sources of Funds*

The role of university as a change agent is acknowledged as vital in the modern set up. Universities are expected to undertake a set of diversified activities including fundamental and applied research to meet the requirements of industries, agriculture and other beneficiaries of universities. As the grant provided by the conventional sources as on today, is found to be

(Contd. on page 14)

Managing Organizational Change in Education

An Integrative Perspective

B.B. Ekshinge *
V.N. Ingale **

Introduction

It is often said that no period in history can match with the present in the magnitude and rapidity of the changes bombarding individulals, groups, organizations and nations. Alvin Toffler has coined the phrase "future shock" to identify our condition of being overwhelmed by change.

Change is an indispensable function and a fact of life. William C. Morris explains, "Too few of us are ready to take the risks necessary to solve our problems. We lack the will to accommodate the changes". The Education Commission (1964-66) was of the opinion that "there should be a change in the attitudes of administrators who should cultivate an openness of mind and a spirit of enquiry rather than rule of the thumb approach which tries to stick to the established practices even when they cease to be meaningful." Administrators must learn to build and manage a human group that is capable of anticipating the new, capable of converting its vision into technology, processes and services and willing and able to accept the new. The purpose of this paper is to bring about such an awareness among the educational administrators through the study of managing organizational change in education.

Change Pressure in Educational Administration

The concept of educational administration is rapidly changing. In the past, an experienced teacher was usually required to administer the educational programme or an institution. The policies depended on current policies and practices rather than upon sound principles or theories of education. As such, educational administration merely meant carrying out plans and policies to the best of one's ability.

Gradually the inadequacies of this concept of educational administration have been recognized. Administration according to one's own whims involved an autocratic attitude, and hence deserved no place in education. It is realized that educational administration is a special type of activity and to perform – it succes fully trained personnel were required.

Frederick Tayler, Henri Fayol, Mary Pancer Folle Elton Maya and Chester Branared treated administra tion as scientific management. In scientific administra tion "emphasis was on organizational structure and th formal relationship of personnel to obtain efficiency operation."

Now a days, the educational administration is co cerned with the management of things such as mone buildings, grounds, libraries, laboratories, equipment as well as relations between students, parents a teachers and coordination between boards of educa tion, local state and national level agencies.

Educational administration can be more easily u derstood if we make an analysis of the purposes f which it is needed. Very simply, the purpose of educa tional administration is to facilitate teaching and lear ing. Educational administration consists of facilitati the development of goals and policies basic to teachi and learning, stimulating the development of a propriate programmes for teaching and learning a procuring and managing personnel and material to i plement teaching and learning.

Today, the scope of educational administratio considerably wider than it was before. Student, teach and non-teaching staff selection, admission, academ progress-internal assessment, external assessment, s dent aid, discipline, formulating the curriculum, sup of textbooks, organization of co-curricular activi evaluation procedure, inservice training and ancil services like health services, cooperati stores,preparation of budget etc. are included in edu tional administration. No doubt, the content and co text of educational administration/management changing very rapidly.

As educational climate changes so quickly the standing solutions to problems in the past may miserable failures in the present or future. Meeting challenge of change is the primary responsibili management. Therefore, adaptability to change necessary quality of good management/administra

To be effective and a successful educational

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inistrator, he should be prepared to identify, underand and accommodate the numerous changes and ctors affecting the practice of educational administraon/management. Indeed the essence of management creation, adaptation and coping with change.

rganizational Change in Education

) *Necessity :*

The need for organizational change will arise in many tuations. Perhaps the most common are :

1) Enabling the existing organization to adapt more readily to changes in their external environment, for example, location.
2) Where the organization is failing to accomplish its objectives in terms of quality of output, and where the nature of the organization is itself limiting the performance of those who work in it.
3) Where the adoption of new technology, systems or methods requires corresponding changes in the organisation for their proper implementation.

The educational system all over the world is underoing fast and tremendous change – change in its strucure, organization, programmes contents, objectives nd administration. Therefore, the educational adninistration needs the relevant management theories nd techniques to succeed. Not only this but also one f the most important measures of an organization's trength is its ability to change. The right kind of change nables an organization to maintain its viability in its hanging environment. The challenge is to create hange that increases or renews the viability of an rganization's position in its environment. Renewal is ot just innovation and change. It is also the process of ringing the results of change in line with the rganization's purposes.

2) *Meaning :*

According to Dr. P. Sambaiah, "Change is undertood as making the form, nature, content etc., of somehing different from what it is or what it would be if left lone."

Organizational change refers to the alteration of tructural relationship and role of people in the organizations. It is largely structural in nature. Change akes place in all organizations but at varying rates of peed and degree of significance. Change occurs in all evels of the organization, from a first line supervisor esolving a personnel conflict to the top management trategist while respective problems, perspectives, approaches and solutions are distinctive and different at each level.

The changes in an organization that improve its adaptation can be of several types :

1) Structural changes including new policies or procedures;
2) Technological changes including new services and new processes; and
3) Human changes including new promotional techniques or new personnel.

None of these is necessarily most important. What counts most is their total mix.

(3) *Variables :*

Organizational change is the function of

i) Evolution,
ii) Innovation,
iii) Communication,
iv) Diffusion,
v) Emulation and Adaptation, and
vi) Conflict.

(4) *Dimensions :*

The demensions of organizational change are :

i) technological, ii) social, iii) economic; and iv) political.

(5) *Factors :*

Some of the important factors that have increasingly influenced the development of education in recent years are :

i) Growing complexity of educational organization,
ii) Modern technological developments,
iii) Changing pattern of education,
iv) Rising cost of education,
v) Increasing politicisation of education, and
vi) Social changes.

(6) *Forces :*

There are two types of forces that press on an organization.

i) "Driving forces" are those that encourage change, growth and development.
ii) "Restraining forces" are those that encourage stability, the status quo, and that resist change.

(7) *Perspectives :*

It seems reasonable to assert that organizations must change in order to remain responsive to changing circumstances. But what is the rationale behind this assertion ? There are atleast two rationales : a logical rationale and a political rationale. From a "logical perspective" organizations are designed or structured in order to enhance the achievement of organizational goals. From a "political perspective" the organizational changes represent the outcome of a process in which changes in coalitions bargain and negotiate for power and influence. Both perspectives have some explanatory value for understanding organizational changes.

How to Manage the Change Effectively ?

(1) *Necessity :*

Even if an organization's design is appropriate for its environment at a given time the Managers/Administrators must anticipate changes in the environment that will require future adjustments in the organization's design. Managing such change effectively is not only a challenge but also a necessity for organizational survival and to keep the organizations viable, current and stable. To do this, they must be responsive to the demands for change in work environments, they must exercise leadership in bringing about changes in the organizations they mange. Managers/Administrators must be "change seekers" and "change agents". A change agent is normally defined as a person who uses planned change-skills within human or social system. They are expected to be innovators within the organization and promote organization renewal. They must be able to develop strategies to plan, direct and control change to move an individual or an organization beyond the status quo.

(2) *Meaning :*

Managing change may be defined as "a conscious and concerted initiative by those who are in charge of the organization to keep a constant and intelligent watch over the behaviour of uncontrollable forces, to assess their impact and influence on the controllable forces; and to evolve appropriate strategies and action programme to maintain a dynamic equilibrium between the controllable and uncontrollable forces."

The controllable fores are those forces about which sufficient information is available. Uncontrollable forces are those forces about which not much is known. These forces exert a powerful influence on the behaviour of controllable forces and limit the scope of managerial action.

(3) *Purpose :*

The purpose of organizational change may be to adapt an existing organization in ways that will enable it to achieve the purposes for which it was established. In most cases the organization will seek to achieve these purposes with the minimum consumption of time, energy and other resources i.e. men, money, material, machine, method, message information. As the basic aim in making a change is to reap its complete benefits, it would be imperative to minimise, and if possible to eliminate, any adverse reactions (called resistance) of all those affected by the proposed change. Minimisation of resistance leading to maximization of the acceptance and whole-hearted implementation of the proposed change is the basic strategy of the systematic approach to the management of change.

(4) *Approaches :*

To deal with change, managers/administrators use two major, approaches viz., i) Reactive, and ii) Proactive.

i) Reactive — they react to the signs that changes are needed, making piecemeal modifications to deal with particular problems as they arise.

ii) Proactive — they develop a programme of planned change, making significant investments of time and other resources to alter the ways of organization operating. In this case, they deal not with present difficulties but with anticipated problems not yet clearly observable. They master change instead of being its victim. In real terms, effective managers/administrators create a future; they do not wait for it. They believe in planned change, and take deliberate actions to alter the status quo.

(5) *Nature :*

Managing change is complex because it involves an understanding, first of organizational purpose, secondly, organizational structure, procedures and systems, and thirdly, of what may be described as the 'dynamics' of organization, that is, the relationship between people and between groups, the role of leadership and team-work, and the significance of learning and motivation in creating an understanding of the need for change, and in generating commitment to action.

To do this, they can identify gaps between current conditions and desired conditions on a variety of dimensions. Atleast three dimensions are relevant to the question — effectiveness, efficiency and participation satisfaction. In other words, their efforts will relate to the question; "How can this organization be made more effective (i.e. achieve goals), more efficient (utilise resources in a better manner), and more satisfying place of work."

The nature of work change is so complicated that the management should gain acceptance for the change and restore the group equilibrium and personal adjustment that change upsets. By equilibrium we mean that people learn to expect various relationships within their working surroundings. They basically learn how to deal with others, how to perform their jobs, and what is expected next. In other words, when equilibrium exists, it be-mes easier for people to adjust with the new equi-rium.

) *Process :*

Process means sequence of action. In order to hieve effectiveness, efficiency and participation satisction, the administrators will have to make indepth agnosis which may reveal problems.

1) Diagnosis : There are at least three steps in the agnostic process: point of view, identification of probm(s), and analysis. In diagnosing for change, they uld attempt to find out :

a) What is actually happening now in a particular situation ?

b) What is likely to be happening in the future if no change effort is made?

c) What would people ideally like to be happening in this situation ? and

d) What are the blocks or restraints stopping movement from the actual to the ideal ?

2) Implementation : This stage of the change process simply the translation of diagnostic data into change als and plans, strategies and procedures. Such quesons must be asked as: How can change be effected in work group or organization and how will it be ceived ? What is adaptive and what is resistant change ithin the environment ? The actual implementation of e change effort has three important dimensions: ning, location, and depth. Timing refers to the queson when it is the best time to begin implementation. ocation determines the level at which change should initiated. The depth of the implementation involves e issue of target groups. Should the change ogramme be directed at the total organization, units, oups or individuals ? Heren not only the particular ange strategy is considered, but also the anticipated de effects of change.

However, with respect to changing the behaviour of ople, a three phase process is studied by Lewin. It volves unfreezing, moving and refreezing.

1) Unfreezing involves making the need for change so obvious that the individual, group or organization can readily see and accept it.
2) Moving requires a trained change agent to foster new values, attitudes and behaviour through the processes of identification and internalization.
3) Refreezing means locking the new behaviour pattern into place by means of supporting or reinforcing mechanisms so that it becomes the new norms.

Moreover, change efforts in organizations can be directed at four interdependent variables: Tasks, structure, technology, and people. In the final analysis, most organizational change efforts have an impact on people. Arnold S. Judson has in his short book, *'A Manager's Guide to making changes'* has suggested a systematic approach to making changes as per following steps.

1) Analyze and plan the change,
2) Communicate the change to those involved,
3) Gain acceptance of the required changes in behaviour,
4) Maintain control during the transition from the status quo to the changed environment, and
5) Consolidate the new conditions and follow up to ensure the success of the change.

(7) *Methods and Techniques :*

The direction and status of an organization is determined by existing internal and external forces. If one is to bring about change in relation to an organization, it can be accomplished only by modifying these forces. In evaluating the options open to a manager/administrator to instigate change, it is necessary to identify the primary forces and then relate the appropriate change methods to each. The forces with associated methods, using a contingency framework are shown in the following table.

Variables/Forces	Change Methods
Purpose and goals	Redefine purpose or mission, modify goals, Management by objectives.
Tasks	Modify nature of tasks, Modify sequence of tasks, Job enrichment.
Technology	Modify methods, Modify machinery, Automation.
People	On the job training, Job rotation, Sensitivity training, Management development courses.
Structure	Change position descriptions, Modify departmentation, Modify authority & responsibility, Organization development programmes.
Environmental forces (Political, economic, socio-cultural, and technological)	Improve understanding of forces.

Organizational Purpose and Change :

Any modification of the basic purpose or mission of an organization will directly influence its functioning.

Tasks and Change

Redesigning tasks is another strategy a manager/administrator uses in change. Tasks focussed changes include

1) High internal work motivation;
2) High quality and work performance;
3) Job enrichment;
4) Scientific management etc.

Technology and Change :

"Technology" refers to the types and pattern of activity, equipment and materials, and knowledge or expertise used to perform tasks. Examples of technology focussed change efforts include changing problem solving and decision making processes, introducing a computer to facilitate managerial planning and controlling etc.

People and Change :

'People' refers to the individuals in an organization. Examples of people foucssed change efforts can be made through following techniques:

i) Management by objectives,
ii) Leadership training,
iii) Team building workshops,
iv) Sensitivity training,
v) Transactional analysis,
vi) Assertiveness training,
vii) Job training programmes.

People change attempts to improve the attitudes, skills, and knowledge of organizational members.

Structure and Change :

Structural changes may be made by application of classical management principles, decentralization or changes in work flow. There are two major types of organizational structures — mechanistic, and organic.

Mechanistic organisations are essentially highly bureaucratic, while organic organisations are flexible and responsive. Moreover, two factors, technology and external environmental uncertainty, are important in determining whether an organization should use a mechanistic or an organic structure to achieve success. These changes primarily include :

1) Changing the number of organizational levels;
2) Altering the span of management;
3) Changing from one base of departmentation to another base; and
4) Altering the line and staff and functional authority relationship

However, if an organization's tasks, technology, structure or personnel are to change from their state of equilibrium, one or more of the following must occur:

i) There must be a net change in the magnitude of the driving or restraining forces;
ii) There must be a change in the direction of one or more of the driving or restraining forces; and
iii) A new driving or restraining force must be added or an old one must be eliminated.

In order to institute change the manager/administrator will have to take some action to modify the situation by :

i) Increasing the strength of driving forces or by adding other driving forces.
ii) Reducing the strength of a restraining force or removing it completely.
iii) Changing the direction of the force i.e. make a restraining force a driving force.

In a general sense, all strategies for change are included in one of these three operations. A change in strategy often alters the kind of activities performed, the degree of uncertainty, the frequency of change and other characteristics of organization's operations.

At this stage of discussion, it would be appropriate to explain why efforts at change fail ?

Chris Argyris explains why efforts at change fail :

"I believe the reasons for failure are embedded in the strategy typically used by management. The basic strategy has been for the top management to take the responsibility to overcome and outguess the resistance to change. This strategy does not tend to succeed because management works very hard, applies pressure, and if necessary, knocks a few heads together (or eliminates some). However, as we have seen, the strategy creates resisting forces that are costly to the organization's effectiveness, to its long run viablility and flexibility, as well as to the people at all levels."

(8) *Skills :*

The effective administrators encourage innovation and creativity, and practise it to the extent possible tivity inevitably involves conflict. Therefore, they der the conflict as the normal state of affairs, try to ncile conflict over any particular issue, and accept inimization as a distinct challenge and achieve. The foundations for good relations, including the cipative management concept and the techniques oblem solving and decision making, hold the best nise for removing conflict from change. A model inistrator is not an autocrat. He leads and guides.

ifficulties :

hris Argyris in *Management of Change and Conflict* rts that the following quotation serves to highlight e of the difficulties inherent in major organizational ges :

Anyone who has planned major organizational ge knows a) how difficult it is to foresee accurately he major problems involved; b) the enormous unt of time needed to iron out the kinks and get ple to accept the change; c) the apparent lack of rnal commitment on the part of many to help make plan work, manifested partly by people at all levels sting taking the initiative to make modifications that see are necessary so that the new plan works."

Resistance to Change :

A major obstacle to the implementation of new cies, goals, or methods of operation is the resistance rganization members to change. It should be emsised that not all change is resisted. Some forms of nge are welcomed (such as new typewriters). It is tively easy to get people to accept changes that are rly in their best interests. It is not change itself ch causes the resistance, but the meaning of the nge for the people involved. It is the attitude ards the change of all those who are likely to be cted that constitutes the sources of reaction.

The factors that influence attitude may be sumrized as below :

i) Predisposed feeling (s) about any change;

ii) Feeling of insecurity and redundancy;

iii) Relevance of feelings about change and insecurity element of uncertainty;

iv) Cultural beliefs and norms relating to work and organization;

v) Trust in and loyalty to management; and

vi) Manner of change; formal or internal, sudden or slow, authoritarian or appealing etc.

J.P.Kotter and L.A. Schlesinger, in their recent are "Choosing strategies for change" identify four basic reasons why people resist change. "Parochial self interest" refers to situations in which individuals see themselves as losing something of value due to the change. Since the change is perceived as contrary to their self interest, the individuals often engage in political behaviour to protect their interest. "Misunderstanding and lack of trust" refers to situations in which the implications of change are not understood and perceived to be more costly than beneficial. Another reason for resistance to organizational change is that people have "different assessments" (different from those initiating the change) of the impact of the change on their own interests. Finally, some people have a "low tolerance for change" and proposed or actual changes may be in excess of their limits."

Resistance to change should not be viewed by managers/administrators as necessarily bad. It can signal to them the need for improved communication about the meaning and purposes of a change. It can reveal the need for more effective approaches to introducing and implementing the change. It can suggest the need for more realistic timing. In the light of these possible benefits of resistance to change, it may be said that the absence of resistance to change may be harmful to organizations.

(11) *Overcoming Resistance to Change :*

The following techniques and guidelines listed by Kotter and Schlesinger may be followed to overcome resistance to change :

1) *Education and Communication :* The people whose interests are likely to be affected must be informed of the change.

2) *Participation and Involvement :* According to a classic study by Lester Coch and John French, resistance to change can be reduced or eliminated by having those involved participate in the design of the change. Paul Lawrence came to similar conclusions suggesting that in order to avoid resistance, managers/administrators should take into account what he called the social effects of change.

3) *Facilitation and Support :* Easing the change process and providing support for those caught up in it is another way managers/administrators can deal with resistance. Retraining programmes allowing time off after a difficult period and offering emotional support and understanding may help.

4) *Negotiation and Agreement*

5) *Manipulation and Cooperation*

6) *Explicit and Implicit Coercion :* Administrators

may force people to go alongwith a change by explicit and implicit threats involving loss or transfer of jobs, loss of promotion and the like.

References

Bayti, Jamnalal. Readings in Education :Delhi, Uppal Publishing House, 1986.

2. Lock, Dennis and Farrow, Nigel, Ed. The Gower Handbook of Management.Gower Publishing Co., 1983

3. Saksena, S.C. Business Administration and Management. Agra, Sahitya Bhawan, 1984.

4. Varghese, Alexander V. Higher Education and Management. New Delhi, Ashish Publishing House, 1989.

5. Shukla, M.C. Management and Education. Delhi, S.Chand & Co. 1988.

6. Massie, Joseph L. Essentials of Management. New Delhi, Prentice, Hall of India, 1982.

7. Gannon, Martin J. Management: An organizational perspective. Boston, Little, Brown & Co., 1977.

8. Hersey, Paul, and Blanchard, Ken. Management of Organizational Behaviour. New Delhi, Prentice Hall of India, 1983.

9. Strauss, George & Sayless, Leonard R. Personnel: The Human Problems of Management. New Delhi, Prentice Hall of India 1976.

10. Donde, G.R. The Practical Management of Public Administration. Pune, Continental Prakashan, 1984.

11. Pareek, Udai. Managing Conflict and Collaboration. New Delhi Oxford & I.B.H. Publishing Co., 1982.

12. Madan, C.R. Social Change and Problems of Development in India. New Delhi, Allied Publishers, 1971.

13. Robert, Albanese. Managing Toward Accountability for Performance. Illinois, Richord D. Irwin, 1981.

14. James, A.F. Stoner & Wankel, Charles. Management. New Delhi, Prentice Hall of India, 1987.

Financial Administration in Universities

(Contd. from page 7)

inadequate to meet the situation, it is highly imperative that the university should look to other nonconventional sources of funding to bridge this growing gap. The agencies on whom universities will have to depend upon largely to mobilise funds for development in future could be mainly the 'potential consumers' of universities' output. Efforts should be made to find out the potential consumers and their needs so as to help university to earn its own revenue and reduce its dependence on govt. and other funding agencies.

8. *To Avoid Multiplicity of Audit and Rationalization of Audit Procedures*

The university financial systems are audited by a number of agencies for different purposes. This makes audit procedures unnecessary lengthy and duplication of work becomes inevitable. Furthermore compliance of audit observations in the university where the officers (HoD's) are teachers becomes very difficult. As reports accumulate, the Govt. under pressure from Public Accounts Committee builds pressure upon university for clearance of audit observation while releasing block grants. The system of audit, therefore, be rationalised and its number be reduced to minimum. The statutory audit should be conducted by Accountant General in place of Chartered Accountant as accounts in the university are not maintained on commercial lines. A system of cent percent concurrent audit may be introduced as an alternative to internal audit.

9. *To Make Finance Function More Accountable and Autonomous*

It can be seen that there is better way of spending, not of saving the finance. In order to curb unnecessary expenditure finance men will have to be the real watchdog to take care of pennies and pounds of university funds. They should provide for accountability and for objective of achieving maximum benefit out of minimum expenditure from public funds. Unfortunately, in the present set up, the finance men have no final say in matters relating to expenditure from university funds. This is because finance division is not an independent organization. It is only a part of the University Administration. Therefore, the Finance Section should be given more autonomy and free hand so that it can function well and guide university authorities in the right direction.

10. *Coordinating Various University Activities and Departments*

Higher education and educational development are inextricably connected. We have paucity funds and shortage of facilities and resources. It may not do well in the national interest to grab more and more facilities, laboratories, libraries and equipments by each and every department of the university. It should be our endeavour to share them with others so that a large number of students, teachers and researchers can make use of limited facilities available in the country. Here, the finance section can adopt a more realistic and balanced approach while distributing and allocating funds to various departments in the larger interest of university. The finance section should look towards university as a total system and should not adopt the individualistic or narrow outlook.

11. *Need of Training & Refresher Courses*

At present the staff working in Finance and Accounts Department are those who with the exception of a few have had no training in Accounts nor there is a system of some examination like that of Subordinate Accounts Service in Indian Audit Department. With increase in volume of transactions and adoption by and large of Government of India rules regarding pay fixation, pension, provident fund etc., there is a need for introducing short training courses for all staff members in the finance section working at different levels. An improved understanding of budgetary concepts and transactions, financial relations with University Grants Commission and the State Government, development and maintenance plans of universities, and optimal allocation of available funds among different activities of universities is a *sine qua non* for proper planning of university finances and their management.

Socialism and Planning

"While recent events have shown that Socialism by itself is not the final answer and the countries who have tried the experiment have found it not altogether satisfactory, the concept of planning is, however, still with us. This concept covers views from as diverse as merely balancing the budget and let things happen by themselves, to strict control of what has to be achieved in a particular period of time and resources be raised specially for this purpose", observed Dr. Raja Ramanna, Director, National Institute of Advanced Studies, Bangalore. He was delivering the Convocation Address at the thirteenth convocation of the Indian School of Mines, Dhanbad. He said, "It was often said that if we get through successfully another set of five-year plans, the problems of poverty would be wiped and we would be well past the take-off stage. Not only has this not happened, but also I don't think we would ever have succeeded the way we were approaching the planning process." Excerpts

CONVOCATION

I happen to address you at a time ien the world is at loggerheads on e material resources of the earth, ore particularly, oil. It has beme so indispensable for the very istence of life on earth that untries are willing to face a largeale technological war to claim tal ownership, irrespective of the nsequences of the war. The situaon has reversed in many ways the sults of the Second World War to e extent that one can ask why that ar was fought at all and why 20 illion young people had to be crificed. Be that as it may, the tuation has forced us to look at nany aspects of our national life in ne context of the eternal question s to what is the purpose of our comined existence and what is it that we ave achieved in the last fortyfive ears, so that some stability and rder have come to exist in the vorld.

Many people of my generation ad believed in the magic words 'Socialism and Planning' as an answer to many things. While recent events have shown that Socialism by itself is not the final answer and the countries who have tried the experiment have found it not altogether satisfactory, the concept of planning is, however, still with us. This concept covers views from as diverse as merely balancing the budget and let things happen by themselves, to strict control of what has to be achieved in a particular period of time and resources be raised specially for this purpose. Under the inspiration of Pandit Nehru, we had placed our aspirations and hopes on the planning process. Now, as a result of Gulf War, questions are being raised on issues of all types, including those which we had considered as being truly noble and virtuous. We can, therefore, discuss the concept of planning in the form we have been using it, without being called a reactionary.

We recall that when Pandit Nehru worked for a planned economy, the faith in it was supreme, specially amongst members of the younger generation. It was often said that if we get through successfully another set of five-year plans, the problems of poverty would be wiped and we would be well past the take-off stage. Not only has this not happened, but also I don't think we would ever have succeeded the way we were approaching the planning process. Our second plan was masterminded by the eminent Statistician, Mahalanobis, and his approach was purely Marxist, with accent on monster steel factories, government-controlled industry and a fully socialist labour. This approach has not only failed in our country, but has also come to pass, where it was originally tried out in its fullest practical form, the Soviet Union. I am not sure that it has been better in any of the other of the so-called socialist countries. From the purely theoretical point of economics, the Marxist approach seems clear and straightforward and because of this very reason, naive. The missing and intangible parameters are many. Even if one could just enumerate these parameters, Marxism would have had a better chance of success, but this itself is not possible. Among the non-quantifiable parameters are, for example, nationalism, individual desire for varied types of living styles, religious fervor, difficulties of defining incentives, etc. All these requirements had been curbed for a long time in these countries or, at best, left to a small group of "wise" party men to determine what is good or bad for all the others. But all this has not worked.

However, all countries believe in planning of one sort or the other. One recalls the great intervention of President F Roosovelt to control American economy after the disasters of recession of the early thirties, arising from a totally uncontrolled economy of the previous era. It is, therefore, clear that planning as such in some form is inescapable, but the scope and method do planning have to be such that it can, in fact, deliver the goods in a reasonable period of time.

The overall structure of our Government is still a colonial one. Though we use computers and other modern techniques, our attitude to our fellowmen is still, essentially, feudal. The people, whom we have to govern, belong to a very wide spectrum of social structure. Our caste system flourishes in all its negative aspects and, at best, provides some form of social stability or, perhaps, immobility. Our resource-gathering techniques are outmoded and weak and black market flourishes rampantly as a parallel economy. Our decision-making processes are cumbersome, supported, as they are, by ineffective paper documents, giving doubtful statistics, cost figures and times of completion. The Planning Commission, the way it is constituted, though it has distinguished men on it, is politically biased in that, instead of looking at each project objectively from the point of view of feasibility, it only examines them financially and philosophically to fall in line with political requirements of the ruling party. Many a project sanctioned by one Government may not get full support by the next and this happens often when projects of a large nature last for periods longer than the life-time of the Government and the new Government suddenly loses interest. A typical example of incomplete planning is the proposal for the "right to work"

In my views, the only time the planning process worked effectively and I give an example from Science and Technology, which concerns us here, was when it was under Shri C. Subramaniam. Besides bringing some gusto into it, he organised it in such a way that all people concerned could take part in the process and feel they had been consulted. All this was done without incurring any special new expenditure. He was able to divide the work between various scientists and scientific bodies, and took part in discussions at selected places in the country, making sure that all concerned were present, including some younger workers. All participants were given enough time to come prepared. He then had the draft reports made for an overall discussion at the Centre. Even now, all these reports are available, but are naturally outdated, but alas, they are gathering dust over the years. It just happened that, even as the reports were finalised, the forward looking Minister was moved to the Finance portfolio and somebody else became in-charge of the plans and its implementation. Planning and its implementation cannot be done only by the Ministry concerned or inbred within the Planning Commission. It has to have the concurrence of those who have to deliver the goods. Ineffective projects have to be pruned by those who know what it is all about i.e., the peer groups. The Minister has to make sure that the proposals are not being rejected due to personality problems and use his political judgement in the final selection of the projects. In case of budget cuts, priorities have to be established, wherever possible, and not by prorata cuts, should this problem be solved as is now done.

You may be wondering why I have chosen to speak about our planning process in a Convocation Address to a group of Mining Engineers. I have done this purposely, as matters of mining and its exploitation take sometimes a whole decade for completion and several crores of rupees are involved. No mining operation can be taken up without proper and sustained planning. It is a matter beyond the decision of the Secretariat and must have the consent of those who organise mining. We now have rich experience of how mines and associated factories should be constructed. As examples of the former, I make reference to some mines and factories I have visited. The ones that make me happy are the Kuduremukh mines in Karnataka for its modernity and environmental cleanliness and the Aluminium Factory, NALCO, in Orissa for its delightful automation. The mines I would NOT recommend are the many Coal mines here. They all have such a disorganised look. This latter set of mines have deep problems which are not of easy solution, but we cannot have mines of this type in the coming century. Its management is so shrouded with political and sociological problems that only a political operation can solve them, but do the politicians want to solve them ! I am sure that on the technical side, your Chairman, with your help, if given a chance, can bring order into the chaos.

The State of Bihar is a rich one and we look to it for our economic development. In the modern world it is only economics, science and technology that really matter. But political leadership is inescapable. My former Minister, Babu Jagjivan Ram, for whom I had the greatest respect, sometimes spoke to me on the Mining Industry and its problems in Bihar, but spoke of it with an almost fatalistic inevitability and, coming as it did from him made me very sad.

The country has made tremendous strides since Independence and, with this background, the people concerned must insist on taking part in clearing unfulfilled parts of our plans. Democracy does not mean a say only in political matters. It also involves us in improving our standards in our field of specialisation. We should make use of the fact that, in Science and Technology, there can be more coherence than in politics. Towards this aim, I express my good wishes to all of you.

CAMPUS NEWS

Madras Presidency College Post Centenary Golden Jubilee

The Tamil Nadu Governor, Mr. ishma Narain Singh, stressed the ed for revolutionising the educa- n system in order to harness youth wer for the good of the country. augurating the post-centenary lden jubilee (150 years) celebra- ns of the Presidency College and ing the foundation for the com- moration block, the Governor d that the course contents should such that the various sectors of economy could easily absorb ese. Industrialists felt that the eral education imparted in univer- ies did not help the graduates in siness environment and separate aining for them was required. "In any cases, what is attempted is a ocess of delearning."

Mr. Singh said that the syllabi ust be restructured but this did not ean that education should merely job oriented. Education should waken the curiosity in the students, romote problem solving skills and oster the leadership abilities in em. "There is a need for integrat- g our economic and education olicies", he said referring to the ck of such links with education olicies being framed independent f the economic situation in the ountry.

To ensure that education did not lienate the educated from the mas- es, there was a need to "promote ur culture through our education ystem", Mr. Singh said. He wanted e beneficiaries of higher educa- on to be "anchored well in the cultural moorings of our country". Education should inculcate democratic values in the students and provide an open mind to the youth alone with respect for the motherland and its cultural heritage. Only this way humanism can be inculcated so that a modern India free from hatred, poverty, penury and exploitation could be built, he added.

Mr. V. Ramachandran, Adviser to the Governor, in his commemoration address, said that universities in other countries were eternally young and the governments looked to them for leadership in many matters. Again, the universities did not depend on governments for funds since industrial houses and the alumni supported them. He wanted a target of one crore of rupees for the college to modernise its library and other facilities.

Mr. V.Karthikeyan, Adviser to Goernor, who presided, referred to the hoary past of the college which had been nurturing a close interaction between the students and the faculty. Today, the colleges were becoming factories producing graduates and postgraduates. Character building and instilling a sense of responsibility were all functions which an educational institution ought to promote, he said.

Dr. R. Rajaraman, Principal, traced the history of the institution and referred to the several alumni who had attained distinction in the various fields of human endeavour. Dr. P. Thirugnanasambandam, Chairman of the Governing Body of the College (an autonomous institution), said that the UGC's aid of Rs. 20 lakhs was being augmented by the State Government which had agreed to release Rs. 18.5 lakh for the commemoration block.

Maharashtra Plans for Science Education & Research

The Maharashtra State Government proposes to establish a department of science and technology to facilitate interaction between universities, research institutions and industries at the highest level. This was announced by Chief Minister Sharad Pawar at a recent high level meeting under the chairmanship of Governor C. Subramaniam which was attended by several state cabinet ministers, vice-chancellors of various universities of Maharashtra, scientists, industrialists and secretaries of various government departments.

Both the Governor and the Chief Minister felt that this "Maharashtra experiment" would be a pace setter for other states in upgrading science education, scientific research and transfer of technology.

To develop interaction between the universities, research institutions and industries "for industrial development", a committee was set up which made several recommendations at the meeting.

A liaison cell was proposed in each university directly under the Vice-Chancellor comprising academicians, to arrange collaboration with scientific institutions and industry.

The committee recommended amendment of the Universities Act "to give freedom to the universities for instituting honorary Professorship and Fellowship to promote free exchange of experts between the universities, scientific research organisations and industry".

It stressed the identification of areas of collaboration between the three and recommended financial support by industries "to take up specific problems for joint research with university departments and payment of royalty by the industries to universities and researchers on commercial exploitation of products developed".

In a city like Bombay, "where there is paucity of accommodation", the government was urged to provide hostel facilities "exclusively" for research scholars and a sub-committee was formed at the meeting for the establishment of an Institute of Advanced Study and Colleges of Excellence attached to premier scientific institution. In these institutions "admissions shall be regulated exclusively on an all India basis with a certain percentage of seats reserved for Maharashtra."

Another sub-committee was formed to look after a science and technology park project to list out the manpower and catalogue the equipment and other infrastructural facilities available in universities and research institutions.

Birla Awards for Young Scientists, 1990

Dr. R. Balasubramanian of the Institute of Mathematical Sciences, Madras, and Dr. N. Mohan Kumar of Tata Institute of Fundamental Research, Bombay have won the 1990 B. M. Birla national science awards for young scientists in Physics.

The award in chemistry has gone to Dr. S. Ramasesha, Indian Institute of Science, Bangalore, Dr. Ganesh Pandey, Indian Institute of Chemical Technology, Hyderabad, and Dr K. N. Ganesh of National Chemical Laboratory, Pune.

The awards which carry Rs. 25,000 in cash and a certificate each had been instituted by the B. M. Birla Science Centre, Hyderabad.

Master in Tourism Administration

Himachal Pradesh University proposes to start Master in Tourism Administration Course in its Institute of Vocational Studies from July this year. This was revealed by Prof. K. C. Malhotra, Vice-Chancellor, while presiding over a meeting of the Academic Council held recently in Shimla.

Professor Malhotra also said that the Institute of Vocational Studies will function under the Faculty of Business Administration.

KAULA FESTSCHRIFT -2

Prof. P. N. Kaula, former Professor and Head, Department of Library and Information Science, Banaras Hindu University was presented KAULA FESTSCHRIFT -2 by Dr. K. Hanumanthappa, Vice Chancellor of the Bangalore University at an impressive function organised a
Bangalore University recen
Speaking on the occasion, Dr
Bhattacharyya, Head, Documen
tion and Research Centre (DRT
Banaglore said that Prof. Kaula
the unique distinction of recen
two Festschrifts, the one be
presented to him when he co
pleted 50 years of his dedicated
and the other on completion of S
years. Prof. Kaula attributed
achievement in his life to the tea
ings of his Guru Dr. S. R. R
ganathan and the blessings of
stalwarts - Iyyanki Venk
Ramanayya and Prof. S. Bashirud
He said that he owed his induct
into teaching career to Pr
Bashiruddin who invited him
draft the syllabus of C. Lib. Sc.
Aligarh Muslim University in 19
and arranged for his lectures
weekends rom 1951-58 as a visit
lecturer.

Kaula Festschrift-2 entitle
"Dimensions of Library and Inf
mation Science" got up by the Int
national Kaula Festschr
Committee features 52 papers th
present an evaluation of Kaul
contributions in terms of their i
pact on professional work in t
country and abroad, honours a
awards bestowed on him and
chronology of the leading events
his life.

News from Agril. Universities

Scientific Workers Conference in Forestry

The Second Scientific Workers' Conference (SWC) in Forestry was recently held at the Tamil Nadu G.D.Naidu Agricultural University (TNGDNAU), Coimbatore. Welcoming the Participants Shri G.Kumaravelu, Dean of the College of Forestry, TNGDNAU, po
out that the thrust areas of re
being undertaken by the C
were plantation forestry, agrofo
exotic forestry, biotechnology,
protection and forest eco
and that a total of 86 research

ts encompassing these dis- es were in operation. Besides, orestry Research Station at ıpalayam which served as the entre for forestry research, re- ch activities with focus on orestry had also been initiated University centres at Arup- ttai, Vamban, Cuddalore, Kil- ım, Pechiparai and the Nilgiris ldress location-specific and based problems. During 1989- one, 42 research publications porating the findings under the us research sub-projects had made.

r. S. Jayaraj, Vice-Chancellor s inaugural address, traced the sis of the Scientific Workers erence. He pointed out that Scientific Workers Conference griculture was being meticulously for the past 57 years and that roceedings of the Conference to be published as supplement e Madras Agricultural Journal. objective of the Conference was ppraise the on-going research grammes, identify thrust areas in context of prevailing situation prioritize the same. With the ing of more colleges under the ersities, SWCs were now being every year in horticulture, culture, agricultural engineering forestry. The SWCs offer a m for workers in various dis- nes to meet, interact and share experience. He indicated that Department of Forestry, started back in 1973, had grown in ngth and stature and was now of the leading centres in the ntry with focus on agroforestry.

hri M.Harikrishnan, Principal ef Conservator of Forests, who sided, deplored that owing to ding forest cover in the state ch had plummeted to a meagre , there was a total mismatch be- en supply and demand of both nestic and industrial wood. The d for enhancing forest produc- y was therefore more now than before, he stressed. Though state Forest Department had been carrying out forestry research for several decades now and a nodal agency under the title Tamil Nadu Forest Research Institute to coordinate the on-going programmes and venture into new ones had been commissioned five months back, yet the problems that faced the state were so massive and complex that institutes like the Tamil Nadu G.D.Naidu Agricultural University should undertake supplementary and complementary research especially in areas like biotechnology, biofertilizers, tree physiology, forest ecology, biological control of forest pests and forest extension methods. Cryopreservation of endangered forest tree species, micro propagation of plus tree, physiology of flowering bamboos, physiology of heartwood formation in sandal, rhizosphere studies in forest trees were some of the areas which the university could take up for investigation on a collaborative basis. He assured that infrastructural and logistic support from the State Forest Department would even be forthcoming for such research efforts on the part of the university.

Dr.S.Ramachandran, Secretary, Department of Biotechnology, Government of India, in his felicitation address observed that not only the productivity of Indian forests was a dismal low of $0.6m^3$ ha^{-1} yr^{-1} compared to the global average of $2.0m^3$ ha^{-1} but the total forest area was also a meagre 19.47%. Increasing forest area to the stipulated 33.3% would require afforestation at the reate of 2 to 4 million ha^{-1} yr^{-1} and supply of 500 to 600 million planting stock every year. To meet this titanic task, new technologies like micro-propagation were called for and with the financial support of the Department of Biotechnology, two pilot plant tissue culture units, one at Tata Energy Research Institute, New Delhi and the other at the National Chemical Laboratory, Pune had been established. Each had been mandated to supply 10 million tissue cultured plants every year. He also underscored research on genetic engineering for salt tolerance, pest resistance and impressed upon the state governments to come up with generous financial grant for such endeavours.

Smt. Lathika D.Padalkar, Agricultural Production Commissioner, Government of Tamil Nadu, informed that the State Agricultural Department had sanctioned a scheme on watershed development with trees for rainfed areas in selected districts like Nellai-Kattabomman, Chidambaranar, Ramanathapuram and Pasumpon. She wanted suitable technology for afforesting these inhospitable habitats where survival percentage of even 30 was considered a miracle.

Dr. S. Kedarnath, former Director, Kerala Forest Research Institute stressed the importance of clonal forestry for a few species like Eucalyptus. Shri S.Kendas, highlighted the role of micropropagation in tree improvement while conducting the relevence of micropropagation under certain circumstances. Dr. S.Chinnamani, Assistant Director General (Agroforestry) underpinned the agroforestry practices of boundary planting and scattered planting to meet fuel and fodder needs. He made a strong plea for multipurpose trees citing the example of *Bassia latifolia* which gave twice as much returns as teak. Shri Usmankhan Gori, Additional Director of Agriculture wanted research to be initiated for better survival of seedlings in the main field.

Dr.C. Surendran, Professor and Head, Forestry Research Station, Mettupalayam outlined the research activities in progress and highlighted the research findings for adoption, on-farm trial and information.

Based on the deliberations, the

following recommendations for follow-up action were made.

(1) *Cassia siamea* though predominantly used under social forestry programmes has not so far been exploited for alley-cropping system. This may be done because the leaves contain as high as 1.8% N.

(2) Since many farmers in Ramnad and Pudukottai grow *Prosopis juliflora* for charcoal production, a thornless variety of the species may be developed for easy management.

(3) *Prosopis juliflora* may be included under the Watershed development Project in Ramnad District.

(4) Seed hardening methods as have been developed in agricultural crops need to be devised for tree seeds.

(5) A scheme for reducing nursery life through microbial invigoration using VAM and Rhizobium in tree crops like *Casuarina, Acacia nilotica*, neem *Eucalyptus camaldulensis* and sandal may be formulated and sent to suitable funding agency.

Krishi Vigyan Kendra at Chamba

Shri Kishorilal, Agriculture Minister of Himachal Pradesh recently inaugurated the first Krishi Vigyan Kendra (KVK) at the Chamba town under the Dr Y S Parmar University of Horticulture and Forestry, Solan. Sanctioned by the Indian Council of Agricultural Research, the real objective of this Kendra is to provide technical knowhow and training to the farmers, orchardists, village women, youth and departmental officers related to horticulture and forestry. Under this KVK, the problem oriented and location specific research related to horticulture and forestry and allied disciplines will be conducted.

Speaking on the occasion the Agriculture Minister said that Chamba District had vast potential for growing quality fruits and forest flora but as compared to other districts of the State this district had remained neglected. He hoped that this KVK would prove to be a boon to the hardworking people of the hilly district to improve their economic status through horticulture and forest farming.

Dr. M. R. Thakur, Vice Chancellor of the university said that the scientists of this university under this KVK would concentrate on need based and problem oriented research on fruits, vegetables, forest farming and other allied subjects which ultimately would help the farming community. He assured all possible help on behalf of the university to the farming community.

Highlighting the extension activities of the university Dr. P.K. Khosla, Director of Extension Education said that the university had planned to organise a chain of training camps at different places of the state and to bring out bulletins on different subjects in Hindi so that people could pick it up easily. Dr. Khosla informed that a radio school on beekeeping through AIR Shimla will be shortly started to educate the farming community of the state.

News from UGC

Countrywide Classroom Programme

Between 1st May to 8th May, 1991 the following schedule of telecast on higher education through INSAT-1D under the asupices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

1st Transmission

1.00 p.m. to 2.00 p.m.

1.5.91

"Special Programme on May Day"

"Appropriate Technology - Tree as Antenna"

"Desert-Locasts -- The Farmer's Foe - I"

2.5.91

"Computer Based Training and Interactive Video Disc - I"

"Basic Camera Control'

"Towards Better Spoken English - I"

3.5.91

"Mathstics"

"Earth Day Special — Without Borders - I"

4.5.91

"The Human Comedy - I"

"Naad Sagar Manthan - I"

"Drunken Driving"

5.5.91

No Telecast

6.5.91

"Frozen Moments"

"Inflation and Price Control - I"

tainable Agriculture by
ing Farmers - I"

in Removing Techniques"

ow to Stand on Giant
ulders - II"

story of Tuberculosis - II"

othermal Energy Sources"

lo-Roman Trade - I : Bron-
and Glass"

sert Locusts - The Farmer's
- II"

2nd Transmission

4.00 p.m. to 5.00 p.m.

ecial Programme on May
y"

ppropriate Technology -
e as Antenna"

esert Locasts - The Farmer's
e-I"

eshers in the World of
chinery"

hat Shaped Our Earth?

Writer and Her Work - I"

zzles and Paradoxes in
tistics"

ychiatric Disorders - III :
urosis"

nderstanding Cinema - XI :
m Spectator Relationship"

t Appreciation"

Telecast

lids - II : Conductors and
ni-Conductors"

ope of Indian Economics"

eavers"

7.5.91

"Plastics and Polymers in Daily Life-III"

"Introduction to Programmed Learning-I"

"Gift of Red Gold"

8.5.91

"Transit Theodolite"

"Impression on Learning Architecture"

"Herbarium - II"

College Funding Further Liberalised

The University Grants Commission (UGC) has further liberalised the conditions for providing development assistance to the colleges during the Eighth Plan period in order to accommodate more colleges. The Basic Assistance Scheme which was in operation during the Seventh Plan period has been amalgamated with the Undergraduate Development Scheme to avoid duplication of work. Also the award of teacher fellowships made earlier under various development schemes has been consolidated into a separate scheme under which the assistance of the Commission will be on actual expenditure basis and in addition to the allocations for which the colleges will be entitled under the Undergraduate and Postgraduate Development Schemes during the Eighth Plan period.

The UGC has been providing financial assistance to the colleges under normal development schemes during a plan period for purchase of books, journals and equipment, appointment of teaching and technical staff, award of teacher fellowships, and construction of building, etc. It has now framed guidelines for college development during the Eighth Plan Period which aim at improvement of standards and quality of education in colleges, removal of disparities and regional imbalances in higher education facilities, restructuring and diversification of courses, and granting of autonomous status to deserving colleges.

In view of the limited financial resources during the plan period the new guidelines underline the significance of careful identification of the developmental needs of the colleges so that the scarce resources are mainly utilised for such programmes as can make an appreciable impact on improvement of standards through modernisation and rationalisation as well as diversification of undergraduate courses in the colleges. It has further suggested that the degree courses should be restructured to make them more relevant to manpower needs by developing appropriate skills which are significant not only to the students but also to the local, regional and national needs and to emphasise utilisation of the natural resources to generate employment opportunities for students. With this end in view, the courses should be diversified to include both basic as well as emerging inter-disciplinary and application-oriented areas.

In order to improve standards of teaching and research at various levels, the colleges will formulate composite development proposals including purchase of books, journals and setting up of book banks, equipment needed for improving the standards, conduct of remedial courses for weaker students including those of SC/ST categories, extension activities in the neighbouring areas for the benefit of the weaker sections of society, additional teaching and technical staff with a view to improving the standards of teaching, examination reform, data collection and field work relating to research, participation of teachers in academic conferences in India and construction/extension of various types of buildings, such as library, laboratories, classrooms, workshop shed, animal house, hostel, staff quarters, teachers' hostel, and improvement of facilities in existing hostels. The Commission will also provide additional funds for special programmes including College Science Improvement Programme (COSIP), College Humanities and Social Sciences Improvement Programmes (COHSSIP), Autonomous Colleges, restructuring of undergraduate courses, computer facilities, National Adult Education Programme, extension and continuing education, improvement of sports and games, teacher fellowships, participation of teachers in international conferences abroad, participation of teachers in refresher courses, workshops/seminars and support for research.

For removing disparities and regional imbalances conditions for providing assistance to the women's colleges, the colleges situated in backward, rural and border areas and those catering to the needs of Scheduled Caste and Scheduled Tribe students have been relaxed.

The guidelines seek to discourage establishment of nonviable colleges with low enrolment and inadequate facilities. In exceptional cases, however, new colleges could be set up in educationally backward areas where facilities for higher education do not exist at present.

News from Abroad

Australia Plans University of the Air

The Australian Broadcasting Corporation (ABC) is planning to televise university courses. With the help of higher education institutions, the ABC is proposing to broadcast programmes based on the model pioneered by Britain's Open University.

Under the plans, Australian viewers will have the chance to sit for university-standard "challenge examinations" in first-year courses. Those who pass will receive credits and the opportunity to continue university education. But students will not have to enrol and will only need access to a television set.

The Australian Minister for Higher Education, Peter Baldwin said the ABC courses would probably include Australian studies, business studies and subjects from the arts and humanities. Subjects requiring sequential learning, such as languages and mathematics, and vocational courses such as law or medicine would not be offered.

The ABC has guaranteed to run three to five programmes a week between 6 a m and 7 p m, five days a week throughout the year. Monash University and the University of New England have put up detailed plans to participate in the "university of the air"

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Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly elect list appears every month as 'Current Documentation in Education'.

toral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registra- ade for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied hand.

earch Scholars and students of education are welcome to use these resources. The Library is open from m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which tion must be made through your Librarian.

RESEARCH IN PROGRESS

A list of Research Scholars registered for Doctoral Degrees in Indian Universities

SOCIAL SCIENCES

& Information Science

Chandrakumaran Nair, M. **Kerala Economy: A survey and etric analysis of information sources.** Kerala. Prof K A 7-26, Jagathy, Trivandrum.

Rena, Roshan Lal. **Assessment of library and information es, facilities and services in the management schools of o ascert in the feasibility of their coordination and stand- ion for effective resource sharing and networking.** HS Dr R G Prashar.

lism

Bansal, Kiron. **Television and its impact on population and health care.** BHU. Shri H A Azmi, Department of ism and Mass Communication, Banaras Hindu University, si.

Srivastava, Usha. **Cartoon in Hindi journalism.** BHU. Shri zmi, Department of Journalism and Mass Communication, s Hindu University, Varanasi.

logy

Bahal, Deepali. **Psychological factors underlying consumer our and tax evasion.** BHU. Dr S S Kaushik, Department of logy, Banaras Hindu University, Varanasi.

Gupta, Sanjay Kumar. **Personality and cognitive perfor-** BHU. Prof B S Gupta, Department of Psychology, Banaras University, Varanasi.

3. Pandey, Rakesh. **Laterality and individual differences.** BHU. Dr M K Mandal, Department of Psychology, Banaras Hindu University, Varanasi.

4. Srivastava, Urmila Rani. **Management of organisational stress.** BHU. Dr A P Singh, Department of Psychology, Banaras Hindu University, Varanasi.

5. Tiwari, Kiran. **Arousal, time of day and retention in amnesics and normals.** BHU. Dr C B Dwivedi, Department of Psychology, Banaras Hindu University, Varanasi.

Sociology

1. Gupta, Suman. **Rashtriya punranirman evam Bal Gangadhar Tilak.** BHU. Dr P N Pandey, Department of Sociology, Banaras Hindu University, Varanasi.

2. Jaiswal, Rajesh Kumar. **Industrial relations in India.** BHU. Dr A K Joshi, Department of Sociology, Banaras Hindu University, Varanasi.

3. Singh, Umesh Kumar. **Problems of old age: Study of retired persons.** BHU. Dr A L Srivastava, Department of Sociology, Banaras Hindu University, Varanasi.

4. Singh, Veenapani. **Prathamik swasthya kendron ke paripekshya mein grameen swaroop.** BHU. Dr A L Srivastava, Department of Sociology, Banaras Hindu University, Varanasi.

Political Science

1. Alawa, Sunil Kumar. **Bhartiya Swadheenta Andolan mein adivasiyon ka yogdan: Pashchim Nimar Jile ke sandarbh mein.**

Vikram. Dr M K Maheshwari, Reader, Department of Political Science, Vikram University, Ujjain.

2. Awasthy, Alpana. **Dakshin Asiayee kshetriya sahyog sangathan aur Bharat.** Vikram. Dr Om Prakash Gupta, Asstt Prof, Department of Political Science, B S N Government College, Shajapur.

3. Entikhab Alam. **Minority Commission: Problems and prospect.** BHU. Dr T N Pant, Department of Political Science, Banaras Hindu University, Varanasi.

4. Gupta, Rajendra. **Bharat Nepal sambandh: Rajshahi se Lokshahi tak, 1966 se 1990 tak kee samyavdhi ke vishesh sandarbh mein.** Vikram. Prof Azhar Hashmi, Department of Political Science, Government Arts and Science College, Ratlam.

5. Laddha, Kusam. **Bhartiya rejniti mein Pradhan Mantri kee bhoomika: Rajiv Gandhi ke vishesh sandarbh mein.** Vikram. Dr (Smt) Nisha Vashistha, Lecturer, Department of Political Science, Vikram University, Ujjain.

6. Mandal, Samir Kumar. **India-Nepal relations, 1971 update.** BHU. Dr A S Mishra, Department of Political Science, Banaras Hindu University, Varanasi.

7. Saxena, Anjana. **Socio-political and spiritual influences on Mrs. Indira Gandhi: A political analysis.** Vikram. Prof Azhar Hasahmi, Department of Political Science, Government Arts and Science College, Ratlam.

Economics

1. Agarwal, Sunita. **Bharat kee vanijyik niti evam arthik vikas.**BHU. Dr (Miss) K L Kedia, Department of Economics, Banaras Hindu University, Varanssi.

2. Alok Kumar. **Study of rural poverty in Varanasi District.** BHU. Dr P K Ghaubey, Department of Economics, Banaras Hindu University, Varanasi.

3. Arvind Kumar. **Development finance in India.** BHU. Dr P K Choubey, Department of Economics, Banaras Hindu University, Varanasi.

4. Boaz, Olga. **Study of the interdependence between tribals and forest economy in Indore Division.** Devi Ahilya. Dr Ganesh Kawdia, Reader, School of Economics, Devi Ahilya Vishwavidyalaya, Indore.

5. Qureshi, Abdul Gaiyur. **Central, state financial relations with a special reference to the State of Madhya Pradesh.** Devi Ahilya. Dr T K Vajdi, Prof, School of Economics, Devi Ahilya Vishwavidyalaya, Indore.

6. Singh, Ramjiyawan. **Marketing of sugarcane.** BHU. Dr A R Prasad, Department of Economics, Banaras Hindu University, Varanasi.

Law

1. Jena, Krushna Chandra. **Heirship of women under Indian personal laws: A comparative study.** BHU. Prof B N Sampath, Department of Law, Banaras Hindu University, Varanasi.

2. Pandey, Rakesh Kumar. **A critical appraisal of Sarkaria's recommendations with special reference to legislative relations between Union and State.** BHU. Prof C M Jariwala, Department of Law, Banaras Hindu University, Varanasi.

3. Singh, S S. **Consolidation of land holdings: An emperical study of the operations in Varanasi District.** BHU. Dr Surendra Nath, Department of Law, Banaras Hindu University, Varanasi.

4. Singh, Surya Prakash. **Regulation of management tives under Industrial Disputes Act, 1947.** BHU. Shri Singh, Department of Law, Banaras Hindu University, Varan

Public Administration

1. Chandel, Ajay Paul. **Health Administration in Pradesh : A case study of Shimla and Chamba District.** HP Shiv Raj Singh, Department of Public Administration, Pradesh University, Shimla.

2. Saini, Sarvjeet Singh. **Administration of some state boards with special refernece to project formulation, tion and evaluation.** HP. Dr R D Sharma, Department of Administration, Himachal Pradesh University, Shimla.

3. Sudhir Kumar. **Personnel administration in Pradesh State Electricity Board.** HP. Dr Shiv Raj Singh, ment of Public Administration, Himachal Pradesh University, la.

Education

1. Neekhara, Rajendra Nath. **A study of diagnosis of Chemistry and validation of remedial teaching on some** Devi Ahilya. Dr P C Katiyar,Prof (Retd), Department of Devi Ahilya Vishwavidyalaya, Indore.

2. Pandey, Vandana. **Varanasi Jile mein anaupcharik karyakramon ke sangathan evam bhumika ka vistrit** BHU. Dr M K Tripathi, Department of Education, Banaras University, Varanasi.

3. Sharma, Dhirendra Kumar. **Madhyamik vidyalayon janjati ke vidyarthiyon kee manoakankshayon ka swarup.** Dr S S Srivastava, Department of Education, Banaras Hindu sity, Varanasi.

4. Singh, Nandjeo Prasad. **A study on the nature of knowledge among students and teachers.** BHU. Dr P N Department of Education, Banaras Hindu University, Varana

5. Srivastava, Jai Prakash. **Jain evam Bouddha shiksha ka tulnatmak adhyayan.** BHU. Dr T Singh, Department of tion, Banaras Hindu Undiversity, Varanasi.

Commerce

1. James, J. **The Operation Flood Programme in critical evaluation.** Kerala. Dr S Kevin, Lecturer, Institute of respondance Courses, University of Kerala, Kariavattom.

2. Rajiv Ranjan. **Financial performance of Hindustan tiliser Corporation.** BHU. Dr K K Jaiswal, Department of merce, Banaras Hindu University, Varanasi.

3. Subhash Singh. **Banks and customer service: A case** BHU. Dr O P Rai, Department of Commerce. Banaras Undiversity, Varanasi.

Home Science

1. Karanpuriya, Indu. **Indore Sambhag ke ekikrit bal yojana mein pradatt kshetra evam gair ekikrit Bal Vikas Yojana Kshetra ke bachchon ke swasthya evam poshnahar sha ka tulnatmak adhyayan.** Vikram. Dr (Smt) Kamlesh Prof and Head, Department of Home Science, Government Kanya College, Indore.

2. Singh, Anita. **Samanvit grameen vikas moolyankan evam arthik samajik star par prabhav.** (Smt) Poornima Srivastava, Department of Home Science, Hindu University, Varanasi.

Singh, Meera. **Mass media of communication of women ping programme.** BHU. Dr Indira Vishnoi, Department of Science, Banaras Hindu University, Varanasi.

Singh, Saroj Kumari. **Working women: A study of their social and value orientation.** BHU. Dr (Smt) P Srivastava, Depart- of Home Science, Banaras Hindu University, Varanasi.

gement

Dubey, Sujit Kumar. **Creativity in advertising: A study of consumer durable products in India.** BHU. Dr A K Agrawal, rtment of Management Studies, Banaras Hindu University, nasi.

HUMANITIES

sophy

Braj Bhushan Kumar. **Fact and value in contemporary sophy.** BHU. Dr A K Rai, Department of Philosophy and ion, Banaras Hindu University, Varanasi.

Chauhan, Ravindra. **Kashmira Shaive darsana evam ad- ka samaja darsana.** BHU. Prof Kamalakar Mishra, Depart- of Philosophy and Religion, Banaras Hindu University, nasi.

. Dube, Bal Krishna. **Bharatiya Darshan mein tarka kee avad- na.** BHU. Dr A K Rai, Department of Philosophy and Religion, ras Hindu University, Varanasi.

. Pathak, Vivek Mohan. **Acarya Sankara evam Vivekanand ke ana mein Brahma evam Jagat kee evadharna.** BHU. Dr U C ey, Department of Philosophy and Religion, Banaras Hindu ersity, Varanasi.

. Roy, Shrabani. **A critical study of the samkhya concept of ution.** BHU. Dr Kripa Shankar, Department of Philosophy and gion, Banaras Hindu University, Varanasi.

. Sharma, Kum Kum. **Samajya yoga mein pramana vivechana.** J. Dr (Miss) Urmila Chaturvedi, Department of Philosophy amd gion, Banaras Hindu University, Varanasi.

. Singh, Brajesh Kumar. **Nehru aur Lohia ka samaj darshan.** J. Prof R R Pandey, Department of Philosophy, Banaras Hindu ersity, Varanasi.

Arts

wing & Painting

. Nigoskar, Priti. **Gwalior mein adhunik, chitrakala ke eta kalakar aur unka kartvya.** Vikram. Mrs Padmata Patil, B overnment Flat, Civil Dispensary, Ujjain.

ic

. Annapoorna, L. **A study of Kshetrakrithis in South Indian ic.** Kerala. Dr M Hariharan, Asstt Prof, Department of Music, Satguru Sangeetha Vidyalayam, College of Music, Tallakulam, urai.

. Tawase, Suvarna. **Madhya Pradesh ke lok vadyon ka ad- yan.** Devi Ahilya. Prof N R Kavishwar, Asstt Prof, Department lusic, Government Girls Post Graduate College, Indore.

guage & Literature

lish

. Mohan, Suman. **Love poetry of Robert Browning : A critical reappraisal.** BHU. Dr N K Lal, Department of English, Banaras Hindu University, Varanasi.

2. Shameem, A. **Urban perspective in the novels of James Joyce and M Mukundan.** Kerala. Dr S Sreenivasan, Prof, Department of English, S N College, Kollam.

3. Upadhyay, Usha. **V S Nai Paul's India: A study in ambivelance.** BHU. Dr A K Tripathy, Department of English, Banaras Hindu University, Varanasi.

French

1. Chaturvedi, Prayas. **Des Proverbas du Hindi (Rajasthani) et des proverbes Francais.** BHU. Prof Prabhakar Jha, Department of French Studies, Banaras Hindu University, Varanasi.

Sanskrit

1. Mishra, Medha. **Magh kee suktiyon ka alochanatmak adhyayan.** BHU. Dr R P Dwivedi, Department of Sanskrit, Banaras Hindu University, Varanasi.

2. Singh, Pushpa. **Dharmabhyudya ka alochanatmak adhyayan.** BHU. Dr P D Singh, Department of Sanskrit, Banaras Hindu University, Varanasi.

3. Singh, Saroj. **Chid gagan chandrika: Ek sameekshatmak adhyayan.** BHU. Dr R S Chaturvedi, Department of Sankrit, Banaras Hindu University, Varanasi.

4. Sreenivasan, G. **The concept of education accordig to Bhava Bhuti.** Kerala. Dr K Achuthan Pillai, Saijyotsna, Jawahar Nagar, Trivandrum.

Hindi

1. Jaiswal, Radhey Shyam. **Anchalik upanyason mein pragatisheel chetana.** BHU. Dr Shambhu Nath Pandey, Department of Hindi, Banaras Hindu University, Varanasi.

2. Jayakumari, K. **A psychological study of the short stories of Agney.** Kerala. Dr V Nandikesan Nair, Athira, Chekkalamukku, Sreekariyam, Thiruvananthapuram.

3. Mishra, Malay Kumar. **Hindi upanyason mein grameen nari.** BHU. Dr Shukdev Singh, Department of Hindi, Banaras Hindu University, Varanasi.

4. Nair, Prasoona S. **Impact of Indian freedom movement on the novels of Hindi and Malayalam : A comparative study.** Kerala. Dr Valleyani Arjunan, Jeesha, T C 14/1740, Thycaud, Thiruvananthapuram.

5. Pandey, Vandana. **Samakaleen lambi ksvita; Pravritti sandarbha evam sanrachana.** BHU. Dr Kashi Nath Singh, Department of Hindi, Banaras Hindu University, Varnasi.

6. Passi, Munni. **Sagar kee Bundeli ka vakya vaigyanik adhyayan.** HS Gour. Dr P K Jain.

7. Pratima. **Swatantrayottar Hindi bal kavita: Vishleshanatmak adhyayan.** BHU. Dr (Mrs) Chandra Kala Tripathi, Department of Hindi, Banaras Hindu University, Varanasi.

8. Purushothaman, Sushma. **Works of Veerendra Saksena: A critical study.** Kerala. Dr V Nandikesan Nair, Athira, Chekkalamukku, Sreekariyam, Thiruvananthapuram.

9. Radhamony Amma, B. **A comparative study of the short stories of Kamleswar and Thankazhy Sivasankara Pillai.** Kerala. Dr M A Karim, Publication Officer, Department of Publication,

University of Kerala, Trivandrum

10. Segheer, Shiba. **Sahni ka katha sahitya.** BHU. Dr Kumar Pankaj, Department of Hindi, Banaras Hindu University, Varanasi.

11. Sahu, Ramdayal. **Betul Jile kee Gondi ka swarup evam us per anya bhashayon ke prabhav ka adhyayan.** HS Gour. Dr B D Mishra.

12. Shahira Banu, S. **A contrastive linguistic study of Dakshini hindi, spoken in Kerala and standard Hindi.** Kerala. Dr N Suresh, Dhanvanthari Mutt, Asramam, Quilon.

13. Sheela, R S. **A study of the progressive idea of the modern poetry in Hindi.** Kerala. Dr N Suresh, Lecturer, Department of Hindi, S N College, Quilon.

14. Sheela Devi. **Naresh Mehta ka katha sahitya.** BHU. Dr Mahendra Nath Rai, Department of Hindi, Banaras Hindu University, Varanasi.

15. Singh, Indraj Bahadur. **Bhartendu yugeen nibandha sahitya mein vyangya aur vakpatuta.** BHU. Dr Shukdev Singh, Department of Hindi, Banaras Hindu University, Varanasi.

16. Singh, Satish Kumar. **Jainendra Jee ke upanyason mein samajik aur darshnik drishti.** BHU. Dr Puspa Agrawal, Department of Hindi, Banaras Hindu University, Varanasi.

17. Singh, Vijai Prakash. **Navi kavita aur Agyeya kee nav rahasyavadi kavitayen.** BHU. Dr Chandra Kala Tripati, Department of Hindi, Banaras Hindu University, Varanasi.

18. Sreekala. **Analytical study of the short stories of Shri Ǵiriraj Sharan.** Kerala. Dr R S Ramachandran Nair, Prof, Deparment of Hindi, University College, Thiruvanthapuram.

19. Srivastava, Sanjai Kumar. **Hindi kee pragatisheel alochana aur Namvar Singh.** BHU. Dr Chauthiram Yadav, Department of Hindi, Banaras Hindu University, Varanasi.

20. Tiwari, Girja Shankar. **A critical study of language laws and legal language in Madhya Pradesh.** HS Gour.

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22. Vinodiya, Saroj. **Mahilayon kee boli ka samaj bhasha shastriya adhyayan: Sagar Nagar kee Bundeli bhashi anusuchit jati kee mahilayon ke vishesh sandarbh mein.** HS Gour.

23. Yadave, Dipa. **Mukti bodh kee kavita mein bimba, pratik aur fantasi.** BHu. Dr Ramkali Saraf, Department of Hindi, Banaras Hindu Undiversity, Varanasi.

Urdu

1. Agha Nehal Ahmad Shah. **Agha Hashr ke samaji shaoor.** BHU. Dr R Jamal, Department of Urdu, Banaras Hindu University, Varanasi.

2. Ghulam Yahya. **Bareillevi Ulema kee adabi khidmat.** BHU. Dr R Jamal, Department of Urdu, Banaras Hindu University, Varanasi.

Bengali

1. Ghosh, Tapasi. **Chitanya Charitamrite darshanic tatva.** BHU. Prof S Sinha, Department of Bengali, Banaras Hindu University, Varanasi.

Arabic

1. Abdul Rasool Abdul Hasan Ali. **The development of Arabic poetry in Iraq during 20th Century.** BHU. Dr I R Rizvi, Department of Arabic, Faculty of Arts, Banaras Hindu University, Varanasi.

Malayalam

1. Susheela Bhai, K. **The contribution of Kottarathil Sankunni to Malayalam literature.** Kerala. Dr V Gangadharan Nair, Su Editor, Malayalam Lexicon, University of Kerala, Thiruvananthapuram.

Geography

1. Mishra,Nirupma. **Population and settlement typology in Indore Distt, M P.** BHU. Dr Tara Devi Singh, Department of Geography, Banaras Hindu University, Varanasi.

2. Rashmi Rani. **Industrial sickness in Chotanagpur Region.** BHU. Dr T D Singh, Department of Geography, Banaras Hindu University, Varanasi.

3. Shinde, Bharti. **Mandsaur Jile mein nagariya adhivason ka vikas: Ek bhaugolik adhyayan.** Vikram. Dr B S Singhal, Prof and Head, Department of Geography, Madhav College, Ujjain.

4. Singh, Sarveshwar Nath. **Population pattern and settlement distribution in Kanpur Dehat.** BHU. Dr R Y Singh, Department of Geography, Banaras Hindu University, Varanasi.

5. Singh, Usha. **A geographical analysis of marriage migration in Rasara Block, Distt Ballia.** BHU. Dr Tara Devi Singh, Department of Geography, Banaras Hindu University, Varanasi.

6. Singh, Usha. **Agricultural system of Chakia Tahsil Distt Varanasi.** BHU. Prof V R Singh, Department of Geography, Banaras Hindu University, Varanasi.

7. Vaidhya, Prahlad. **Chittore Jile ke vipnan tantra evam samajik sanrachna.** Devi Ahilya. Dr S H Shekh, Asstt Prof, Department of Geography, Government Arts and Commerce College, Indore.

8. Verma, Vikram. **Nimar ka krishi bhoogol.** Vikram. Dr Surender Singh, Head, Department of Geography, Mahav Science College, Ujjan.

History

1. Anita Kumari. **Goddess Tara in Tibetan Buddhist art.** BHU. Dr (Mrs) S D Singhal, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

2. Punjabi, Balkrishna. **Indore Nagar: Kal aur aaj.** D Litt. Devi Ahilya.

3. Raj Lakshmi. **300 E se 700 E Tak ke abhilekhon ke adhar par Uttar Bharat kee dharmik sthiti.** BHU. Prof Maheshwari Prasad, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

4. Shrivastva, Rina. **A study of mining and metallugy in Ancient India.** BHU. Dr (Mrs) V Tripathil, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

5. Singh, Saroj Kumar. **Purva madhya kaleen Bharat Sanskritik itihas.** BHU. Dr A L Yadava, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

SOCIAL SCIENCES

y & Information Science

Joseph, Rosamma. **A study of libraries, information needs e of information sources in newspaper establishments in** Calicut. Dr M Davakutty, Librarian, University Library, sity of Calicut, Calicut.

Sharma, Hemant. **Madhya Pradesh mein Vishistha Gran- a: Upyog kartayon kee awashakatayon ke paripekshya mein alochanatmak mulyankan.** Jiwaji. Dr S M Tripathi, Prof ead, Department of Library and Information Science, Jiwaji sity, Gwalior.

logy

Bhattacharya, Kum Kum. **The VIE r [illegible] d job behaviour nperical study.** Calcutta.

Dalal, Mukesh Shantilal. **A comparative study of intergenera- differences with respect of some personal beliefs, social es and values prevalent among individuals of varied casts, d residence.** Baroda.

Jain, Sudha. **A study of menstrual stress in growth and pment of womanhood indentity.** H S Gour. Dr Y S Vagrecha, r, Department of Psychology, Dr Harisingh Gour Vish- alaya, Sagar.

Prasada Rao, Podugu Sai Durga Vara. **Behavioural interven- alcoholism.** Bangalore. Dr H Mishra, Additional Prof, tment of Clinical Psychology, National Institute of Mental and Neuro Sciences, Bangalore.

gy

Bapuji, B R. **Conception of social class in Marx.** Osmania.

Chattopadhyay, Molly. **The making of the nurses: A study in tional socialization.** Calcutta.

Fazalbhoy, Nasreen. **A sociological investigation of selected ms in the study of Islam in an urban setting.** Delhi.

Mahakud, Nanda Kishore. **Social organisation in agricul- peration: Data from a kisan village of Orissa.** Sambalpur. Rath, Prof, P G Department of Anthropology and Sociology, lpur University, Jyoti Vihar, Burla.

Mishra, Priti Bala. **The uran Harijan women: A probe into anging status of sweeper caste women of Jabalpur City.** wati. Dr (Smt) S Shukla, Prof (Retd), Department of Sociol- ani Durgawati Vishwavidyalaya, Jabalpur.

Sharma, Sangeeta. **Arya Samaj and women emancipation.** han. Dr (Mrs) Pratibha Jain, Director, Centre for Women's s, University of Rajasthan, Jaipur.

Vijaya Kumar, K N. **Institutional control and sexually trans- diseases.** Kerala. Dr G Narayana Pillai, Prof, Department of gy, University of Kerala, Kariavattom.

Anthropology

Sarkar, Sankar Kumar. **A study of the impact of community development programmes on the Garos of Rissu-Bolpara Development Block in the District of Garo Hills, Maghalaya.** Dibrugarh. Dr K C Mahanta, Reader, Department of Anthropology, Dibrugarh University, Dibrugarh.

Political Science

1. Aggarwal, Anju. **Constitutional and political development in Kenya.** Delhi.

2. Biswas, Dipti. **Role of the Speaker in the working of the Parliamentary Democracy in India with special reference to West Bengal.** Rabindra Bharati.

3. Kalita, H N. **Election administration in India and the allotment of symbols.** Dibrugarh. Dr V Venkata Rao.

4. Sanga, R R T. **Administrative development in Lushai (Mizo) Hills upto 1972.** NEHU. Dr M B Nair, Department of Politics, University of Kerala, Kariavation.

5. Saraswat, Nalini. **Samuhik suraksha Samyukta Rashtra Sangh ke sandarbh mein evam usmein Bharat kee bhumika.** H S Gour. Dr R C Dubey, Prof (Retd), Department of Political Science, Dr Harisingh Gour Vishwavidyalaya, Sagar.

6. Tiwary, Surabhy. **Democracy and Ancient Indian political tradition.** Delhi.

7. Venkata Surya Prabhavathi, Pulugurta. **A study of housing and development programmes of slum dwellers in Visakhapatnam City.** Andhra.

Economics

1. Bezbora, Rupak. **Economic aspects of green leaf plucking with special reference to work study in tea plantation in N E India.** Dibrugarh. Dr N S Krishnan, Cinnamara, Jorhat.

2. Chakravarti, Rita. **Ekikrit grameen vikas karyakram ka adivasi arthvyavastha per prabhav : Poorva Madhya Pradesh ke Sargguja evam Raigarh Jile ka tulnatmak adhyayan.** Ghasidas.

3. Chaturvedi,Anjana. **Krishi utpadon ka vipnan: Sagar Sambhag ke vishesh sandarbh mein.** H S Gour. Dr M L Tripathi, Department of Economics, Dr Harisingh Gour Vishwavidyalaya, Sagar.

4. Chouhan, Neerja. **Regional disparities in the Industrial development of M P.** Vikram. Dr (Mrs) S Murti, Head, Department of Economics, Vikram University, Ujjain.

5. Gangley, Madanlal. **Khargon Jile kee Harijan adivasi kalyan yojnayon ka kriyanvayan : Ek mulyankan.** Vikram. Dr Ramratan Sharma. Department of Economics, Vikram University, Ujjain.

6. Goswami, Noni Gopal. **Financial management of tea estates in Assam: A case study in Sibsagar and Dibrugarh District.** Dibrugarh. Dr P C Goswami, F C I Chair Prof, Gauhati University, Guwahati.

7. Kasana, Chitra. **Factors in economic development with special reference to India.** H S Gour. Prof R Mehrotra, Head, Department of Economics, Dr Harisingh Gour Vishwavidyalaya, Sagar.

8. Manju Bala. **Food problem in West Africa with special reference to Ghana.** Delhi.

9. Mishra, Prahallad. **Determinants of tax revenues of the Union Government in India.** Sambalpur. Late Dr S P Gupta.

10. Nayak, Uttam Charan. **Industrial development in Orissa since 1951.** Utkal.

11. Pakki Reddy, G. **Industrial promotion through the joint sector : A study in Andhra Pradesh.** Osmania.

12. Rajput, Balveer Singh. **Sagar Sambhag mein krishi ke vikas mein Taqniqi parivartanon ka yogdan, 1973 se 1986 tak.** H S Gour. Dr S K Pandey, Department of Economics, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

13. Rama Devi, K. **Female labour absorption in agriculture : The case of Andhra Pradesh.** Osmania.

14. Rama Rao, P. **Energy conservation in Indian industry.** Osmania.

15. Sharma, R C. **Relative efficiency of firms through estimation of frontiers.** Rajasthan. Dr Narain Sinha, Assoc Prof, Department of Economics, University of Rajasthan, Jaipur.

Law

1. Grewal, Rajinder Singh. **Juvenile delinquency and administration of criminal justice with special reference to the working of East Punjab Children Act, 1949.** Panjab.

2. Jain, Prakash Chand. **Women property rights under Hindu Law : A study of sociolegal implications.** Rajasthan. Prof T Bhattacharya, Department of Law, University of Rajasthan, Jaipur.

3. Mehta, Rama. **Impact of legislative and administrative measures in the improvement of status of women and fulfilment of Constitutional mandate in Shimla District of Himachal Pradesh.** HP.

4. Pal, Amar Chand. **Union state fiscal relations in India.** HP.

5. Vyas, J P. **Amending process under the Constitution of India.** Rajasthan. Dr S K Kumbhaj, University Studies in Law, University of Rajasthan, Jaipur.

Military Studies

1. Atrey, Rajni Kant. **Multi dimensional separatist approach of Gorakhaland Movement in North Bengal and its implications for India.** Jiwaji. Dr Harvir Sharma, Department of Defence Studies, Meerut College, Meerut.

Education

1. Das, Godavarish. **Comparative effect of isometric, isotonic and combined isometric and isotonic resources on the performance of selected track and field events.** Jiwaji. Dr A K Uppal, Deputy Dean, Laxmi Bai National College of Physical Education, Gwalior.

2. Jayappa, H S. **A perceptual approach to good teaching : Development validation.** Karnatak. Dr G M Patted, Prof (Retd), Post Graduate Department of Studies in Education, Karnatak University, Dharwad.

3. Kalavathi, P. **Foundational approach to teaching learning process in distance education.** Osmania.

4. Manocha, Vinita. **Development of textual material of Biology for class IX using Bruners concept attainment model of teaching.** Devi Ahilya. Dr U C Vashisth, Deopartment of Educat Ahilya Vishwavidyalaya, Indore.

5. Narain Parkash. **Changes in physique and physical perfo mance in school boys ranging in age from 8 to 20 years.** Punjab Devinder Kumar Kansal, Reader, Department of Sports Scien Punjabi University, Patiala.

6. Navadia, Kantilal Ramjibhai. **A study of educational thinkin of Immanuel Kant.** Patel. Dr J K Dave, Reader, Departmen Education, Sardar Patel University, Vallabh Vidyanagar.

7. Sukumar Reddy, Vanja. **Development of geometric concep in primary school children.** Osmania.

8. Swaranjit Singh. **Philosophy of Sikh Gurus and their co tribution to education.** HP.

Commerce

1. Aiyadurai. K. **Sugar industry and its growth potential i Tamil Nadu.** Madurai.

2. Doley, Mineswar. **A study on income saving and investme of the Mishing tribal community of Upper Assam.** Dibrugarh. D A R M Rehman, Prof, Department of Commerce, Dibrugarh Unive sity, Dibrugarh.

3. Jain, Anil Kumar. **Madhya Pradesh mein tilhan utpad evam vipanan.** H S Gour. Dr R K Bharati, Prof and Head, Depa ment of Commerce, Dr Harisingh Gour Vishwavidyalaya, Sagar.

4. Kadaresha Murthy, D. **The role of institutional agencies i housing finance : An evaluation.** Bangalore. Dr K Hanumanthapp Vice Chancellor, Bangalore University, Bangalore.

5. Moshal, Bhagwqn S. **A study of public distribution o foodgrains in India with special reference to Union Territory of Delhi.** Delhi.

6. Pandey, Basant Kumar. **Management of human resources i Malanjkhand Copper Project.** H S Gour. Dr B K Jain, Departme of Commerce, Dr Harisingh Gour Vishwavidyalaya, Sagar.

7. Ramesh, B. **Volume of trade and its impact on the econom development of Kerala.** Calicut. Dr Mossa A Baker, Prof, Depar ment of Commerce, University of Calicut, Calicut.

8. Subba Rao, Bolisetti. **Labour welfare in select jute, ce and sugar units in Andhra Pradesh.** Andhra.

Home Science

1. Ramamurthy, Savitri. **Women entrepreneurs in Delhi : Th motivations, management practices and problems.** Delhi.

2. Sireesha, V. **Psychosocial adjustment of orthopaedica handicapped children.** Delhi.

Management

1. Dinesh Kumar. **Human resource accounting in India.** Pu jab.

2. Malhotra, Meenakshi. **Organisational change : A study o selected electronics organisationas in North India.** Panjab.

3. Seth, Ashok Kumar. **Analysis of the monetary structure o Indian economy : An econometric study.** Delhi.

4. Singla, Manohar Lal. **Computerized management informa tion systems for public sector undertakings.** Delhi.

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University Buildings, Thiruvananthapuram,

No. PR. 1/5872/(12)/91 **Dated: 6-4-1991**

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Applications are invited from qualified candidates for appointment to the following posts in the University

Sl.No.	Name of Department	Name of Post	No. of Posts	Community for which the post is reserved
	University of Kerala	Controller of Examinations	1	Ezhava
	Aquatic Biology & Fisheries	Lecturer	1	Open Merit
	Economics	Reader	1	Open Merit
		Lecturer	1	SC/ST
	English	Professor	1	Open Merit
		Reader	1	Open Merit
		Lecturer	1	*LC/AI
	German	Professor	1	Ezhava
	Library & Information Science	Professor	1	Open Merit
		Reader	1	Ezhava
		Lecturer	1	SC/ST
	Malayalam	Professor	2	1: Ezhava 2: Open Merit
		Reader	1	SC
8.	Mathematics	Professor	1	Open Merit
		Lecturer	1	Open Merit
9	Politics	Lecturer	1	Open Merit
10	Psychology	Professor	1	Open Merit
11	Sanskrit	Professor	1	Ezhava
		Reader	1	Open Merit
		Lecturer	1	Muslim
12	Zoology	Professor	1	Open Merit
		Lecturer	1	SC
13	Philosophy	Lecturer	1	Ezhava
14	Law	Reader	1	Ezhava
15	Hindi	Lecturer	1	Open Merit
16	Music	Professor	1	Open Merit
		Reader	1	Open Merit
17	Computer Science	Professor	1	Open Merit
		Lecturer	1	Open Merit
18	Physics	Professor	2	1: Open Merit 2: SC(Leave Vacancy)
19	Sociology	Reader	1	Open Merit
20	Academic Staff College	Director-cum Professor	1	Open Merit
		Associate Director -cum-Reader	1	Open Merit
		Asst. Director-cum-Lecturer	1	Open Merit
21	Environmental Sciences	Reader	1	Open Merit
22	Opto Electronics	Professor	1	Open Merit
23	Institute of Management in Kerala	Professor	1	Open Merit
		Lecturer	2	1: Open Merit 2: Ezhava
24	Archaeology	Lecturer	1	Open Merit
25	Bio-Technology	Reader	1	Open Merit

SCALE OF PAY : Controller of Examinations: Rs. 3050-4435 (likely to be revised). Prof.,/Director-cum-Prof: Rs. 4500-7300.
Reader/Associate Director-cum-Reader: Rs. 3700-5700.
Lecturer/Asst. Director-cum-Lecturer: Rs. 2200-4000.

* Latin Catholic/Anglo Indian.

Application forms and further details regarding age, qualifications, registration fee, etc. can be had from the Deputy Registrar (Administration-I), University of Kerala, Thiruvananthapuram Pin 695 034, on submission of a written request along with a SBT Pay-in-slip for Rs. 200 remitted to KUF (A) Account in respect of the posts of Controller of Examinations/Professor/Director-cum-Professor/Reader/Associate Director-cum Reader, and for Rs. 100/- in respect of the posts of Lecturer/Asst. Director-cum-Lecturer. Candidates residing outside the State may produce Crossed Indian Postal Order drawn in favour of the Finance Officer, University of Kerala, Thiruvananthapuram, instead of SBT Pay-in-slip. For reserved posts, candidates belonging to the respective community/caste alone need apply.

Applications in the prescribed form along with the Registration fee, should reach the Deputy Registrar (Administration-I), University of Kerala, Thiruvananthapuram 695 035 on or before **15th May, 1991.**

D.P.D-IN-CHARGE OF REGISTRAR

ALL INDIA INSTITUTE OF MEDICAL SCIENCES

ANSARI NAGAR, NEW DELHI-110029

Advertisement No.3/92-Estt.I

Applications will be received by the Director, All India Institute of Medical Sciences, Ansari Nagar, New Delhi-29 from Indian citizen upto the 25th May, 1991 for the following temporary posts :-

1. **PROFESSORS:** Eleven : Two for (1) Gastroenterology and one each for (2) Nephrology (3) Physical Medicine & Rehabilitation (4) Cardiac Pathology (5) Cardiology (6) Virology (7) Neuro-Surgery (8) Prosthodontics (9) Physiology; and (10) Surgery.

PAY SCALE: Rs. 5900-200-7300 + NPA for medically qualified candidates only.

NOTE : 1. For the post of Professor of Physiology both medical and non-medical candidates will be considered.

2. The Posts of Professor of Cardiac Pathology and Cardiology are for Cardiothoracic Centre at the AIIMS.

2. **ADDITIONAL PROFESSORS:** One : For Venereology.

PAY SCALE: Rs. 5100-150-6300 + NPA.

3. **ASSOCIATE PROFESSORS:** TWO : One each for (1) Microbiology and (2) Physiology.

PAY SCALE: Rs. 4100-125-4850-150-5300- + NPA for medically qualified candidates only.

NOTE : For the Post of Associate Professor of Physiology both medical and non-medical candidates will be considered.

4. **ASSISTANT PROFESSORS:** Ten : Two each for (1) Psychiatry and (2) Clinical Psychology and one each for (3) Biostatistics (4) Anatomy (5) Community Ophthalmology (6) Occular Pharmacology (7) Community Medicine; and (8) Biochemistry.

PAY SCALE : Rs. 3500-125-4500 + NPA for medically qualified candidates only.

RESERVATIONS : 5 Posts are reserved for Scheduled Castes candidates and 5 Posts for Scheduled Tribes candidates.

NOTE : (1) The Posts of Asstt. Professor of Psychiatry, Clinical Psychology and Biostatistics are for De-Addiction Centre, based at Deen Dayal Upadhyay hospital, Hari Nagar, New Delhi.

(2) The Posts of Assistant Professor of Community Medicine and Occular Pharmacology are for Dr. Rajendra Prasad Centre for Ophthalmic Sciences at the AIIMS.

N.B. : 1. All posts carry usual allowances as admissible to Central Government Servants of similar status stationed at Delhi/New Delhi.

2. Scheduled Castes and Scheduled Tribes candidates called for interview will be paid travelling allowance as per rules of the Institute.

3. The effective date upto which the requisite experience must be completed will be 31st December, 1991.

UPPER AGE LIMIT : 50 years relaxable for Government Servants, Scheduled Castes and Scheduled Tribes candidates or otherwise exceptionally qualified candidates. Upper age limit upto 5 years relaxable in the case of Scheduled Castes and Scheduled Tribes candidates.

N.B. : The essential qualifications are relaxable at the discretion of the Selection Authority.

UTKAL UNIVERSITY

No. Estt. I/1041-C/VoLV/7495 /91

Dated 11.4.91

CORRIGENDUM TO ADVERTISEMENT NO. ESTT.I/1041-C/VoLv/6022/91

Dated 20.3.91

1. Out of the TWO vacancies shown against the post of Reader in Philosophy under serial No.6 of the Advertisement one is against lien vacancy.

2. The post of Lecturer in Business Administration under serial No.6 against "Mathematical Statistics M.A. or M.Sc. in Mathematics or Statistics" is reserved for S.T. instead of S.C.

3. The number of vacancies in the post of Lecturer in Geology (Under Graduate) under serial No. 7 (b) be read as follows:

7(b) Deptt. of Geology (U.G.)(Two)

One (S.T. and One (Leave vancacy).

4. The post of Lecturers in the P.G. Deptt. of Labour Welfare under serial No.10 do not carry any specialization and the specialisation mentioned are deleted. Qualification will be Master's degree in Peronsonnel Management and Labour Welfare.

5. The specialisation for the posts of traditional scholar under serial No. 11 of the P.G. Deptt. of Philosophy be read as follows :

"Master's degree in Sanskrit with command on Pali Language or Acharya Degree in Darshan with specialisation in Buddhism and Vedanta.

6. The last date for receipt of application for all the Posts is extended upto **6.5.1991 (the sixth May, 1991).**

7. Candidates intending to apply for different posts under a particular faculty are required to apply separately enclosing Bank draft of Rs. 50/- for each post.

REGISTRAR

INDIAN INSTITUTE OF MASS COMMUNICATION

NEW DELHI

Brief Advertisement No. 1634

Applications are invited for the following faculty positions:

1. Professor (Development Communication)
2. Professor (Traditional Media)
3. Professor (News Agency Journalism)
4. Professor (Broadcast Journalism)
5. Associate Professor (News Agency Journalism)
6. Associate Professor (Development Communication)
7. Assistant Professor (Traditional Media)

Age: (As on 31 December 1991). Normally below 55 years for Professor, 45 years for Associate Professor and below 40 years for Assistant Professor.

Application forms and the full advertisement can be obtained from **Section Officer III, Indian Institute of Mass Communication, Shaheed Jit Singh Marg, JNU New Campus, New Delhi-1100067**, either in person or by post by sending a self-addressed and stamped (Rs. 2.00) envelope (27 x 13 cm.)

Last date for issue of application forms : **15 May 1991**

Last date for receipt of completed application : **29 May 1991**.

RAVISHANKAR UNIVERSITY, RAIPUR

EMPLOYMENT NOTICE NO. 2/91

No.1125/Gen. Admn./91

Dated : April 6, 1991

Last Date of receipt of application in the niversity Office **8th, May ,1991.**

(1) Applications are invited for appointent to the following Posts:-

Sr. No., Posts, qualifications & pecialisation and No.of Posts are given as nder.

OMPUTER CENTRE

Director, Computer Centre : One

ay Scale : Rs. 4500-150-5700-200-7300/-

1. Ph.D. with Ist Class degree at achelor's or Master's level in Engineerng/Technology/Science.

2. 10 Years experience in Teaching/Inustry/Research out of which 5 years must be t the level of Asstt. Prof. or equivalent.

ote:- Candidate from Industry/Professor vith recognised professional work of high tandard recognised at National/Internaional level equivalent to Doctorate would lso be eligible. Requirement of Ph.D. could e relaxed in view of long experience in comuting in the next lower grade.

*Experience should be after the academic ualification acquired.

. Senior System Analyst/Senior System rogrammer : One

ay Scale : Rs. 3700-125-4950-150-5700/-

M.Tech. (CSE) with 5 years exerience/B.Tech. (CSE) with 7 years exerience/B.Tech. (Non CSE) with 8 years xperience/M.Sc. (Physical Science) with 8 ears experience/M.Sc., DCA with 7 years xperience/MCA with 7 yeras exerience/Ph.D. with 5 years post Ph.D. exerience. Experience should be in omputing.

. System Programmer/System Analyst: Two

ay Scale : Rs. 2200-75-2800-100-4000/-

B.Tech. (CSE)/B.Tech. (Non-CSE) experience in computing/M.Sc.(Physical cience) DCA with one year experience in omputing/M.Sc. (Physical Science) with wo years experience in computing/M.C.A.

. Computer Operator : Two

ay Scale : Rs. 1600-50-2300-60-2720/-

B.Sc. with D.C.A.

. Data Entry Operator : Two

ay Scale : Rs. 1150-30-1210-40-1450-50-1800/-

* Graduate with knowledge of Data Entry and Word Processing.

UNIVERSITY SCIENCE INSTRUMENTATION CENTRE

6. Professor : One

Pay Scale : Rs. 4500-150-5700-200-7300

Ph.D./M.E./M.Tech. in Instrumentation or allied field with atleast 55% marks with good academic record. Experience of 12 years in a reputed laboratory/industry of which atleast 5 years should be in a senior position and should also provide evidence of his achievements by way of high quality publications in instrumentation and/or patents related to new designs and processes in instrumentation.

7. Reader : One

Pay Scale : Rs. 3700-125-4950-150-5700/-

Ph.D./M.E./M.Tech. in instrumentation or allied field with atleast 55% marks with good academic record.

Atleast 8 years experience in reputed laboratories/industries in production/maintenance/design of instruments

8. Lecturer : Three

Pay Scale : Rs. 2200-75-2800-100-4000/-

M.Sc./B.E./B.Tech. in instrumentation or allied field with atleast 55% marks with good academic record.

Desirable:- M.Phil, M.Tech & Ph.D. in the relevant subject.

9. Technicians

(a) Grade-V : One

Pay Scale : Rs. 1640-60-2600-EB-75-2900/-

INDIAN INSTITUTE OF EDUCATION
PUNE-411 029

Applications are invited for Academic positions in the Indian Institute of Education, Pune at the levels of Professor/Reader/Lecturer with U.G.C. scales of pay. The number of posts in each cadre is shown below :

1. Professor –	3 Posts	(Two posts reserved for SC/ST/NT candidates. One post unreserved).
2. Reader –	2 Posts	(One post reserved for SC/ST/NT candidates. One post unreserved).
3. Lecturer –	1 Post	Reserved for SC/ST candidate.

Applicants should have the requisite qualifications prescribed by the U.G.C. and should be competent and willing to do interdisciplinary research and teaching on different aspects of education and development. Preference will be given to persons who have a first rate academic record in any social science and research experience in the field of education and developmental problems.

Applications enclosing detailed curriculum vitae stating age, qualifications, experience of teaching, research work done and publications, expected status and salary, should reach the undersigned before **15-5-1991.**

The applicants belonging to reserved communities should attach a caste certificate from the competent authority with their applications along with other testimonials.

Reserved category candidates are advised to send copies of their applications without enclosing testimonials to the Dy.Registrar, Reservation Cell, University of Poona, Pune-7.

In case no suitable candidates from SC/ST/NT communities become available for these posts, they will be filled by candidates from other communities on temporary basis.

Diploma in Electronic with 10 years experience repairs and maintenance of instruments.

(b) Grade-IV : Three

Pay Scale : Rs. 1400-40-1800-EB-50-2300/-

Diploma in electronics or electrical/mechanical engineering.

(c) Grade-III : One

Pay Scale : Rs. 1320-30-1560-EB-40-2040/-

I.T.I. Certificate with atleast 7 years experience in mechanical/electrical/electronics shops of reputed industry, university department or research laboratory.

(d) Grade-II : Two

Pay Scale : Rs. 1200-30-1440-EB-30-1800/-

I.T.I. Certificate with atleast 7 years experience in mechanical/electrical/electronics shops of reputed industry, university department or research laboratory.

OR

HSC with 5 years experience in glass blowing

(e) Grade-I : Three

Pay Scale : Rs. 950-20-1150-EB-25-1400/-

I.T.I. Certificate with 1 year experience in mechanical/electrical/electronic shops of reputed industry, university department or research laboratory.

OR

HSC with 2 years experience in glass blowing.

(2) Prescribed application forms may be obtained from the Registrar on payment of Rs. 10/- in cash.

(3) The candidates desiring to get the prescribed form of application by post will have to send a Bank Draft for Rs. 20/- (Rs. Twenty only) drawn in favour of the Registrar, Ravishankar University, Raipur alongwith a self addressed envelope of the size of 23cm X 11cm.

(4) Applications (Seven, copies) with complete details and attested copies of Marksheets will be acceptable on plain paper also, if submitted alongwith a Bank Draft for Rs. 20/- such candidates will be required to fill in the prescribed form at the time of interview.

(5) Fee for application form will not be accepted by Money Order or Postal Order.

(6) For posts at serial No. 4,5, and 9 Applications shall be submitted on plain paper. They are not required to pay any fee. Full particulars alongwith copies of certificates shall be submitted by them to the Registrar.

(7) Qualifications etc. as on the date of interview will be taken into consideration while making the selection.

(8) 15 posts are reserved for SC and $7\frac{1}{2}\%$ for the ST Candidates.

(9) No T.A./D.A. will be admissible for attending the interview.

(10) The University reserves the right to fill up or not to fill up the posts and/or to call only selected candidates for interview.

(11) Applications must reach the Registrar's Office on or before **8th, May 91.** Applications received after this date will not be considered.

M.S. Dubey
REGISTRAR

UNIVERSITY OF JAMMU

VACANT POSITION

Applications on the prescribed form obtainable from the University Office are invited for the post of Director Centre of Continuing Education and Extension Work in the pay scale of Rs. 4500-7300.

The post is available upto 31-3-1995, but is likely to continue thereafter also.

The applications should reach the undersigned **on or before 15 May, 1991.**

Prescribed application forms and other details can be had from Shri Vijay Kumar Gupta, Assistant Registrar (Forms and Stationery) by sending a self addressed envelope (size 25 cms x 10 cms) bearing postage stamps worth Rs. 12/- alongwith crossed postal order worth Rs. 20/- drawn in favour of the Registrar, University of Jammu, Bahu Road, Jammu(Tawi)-180 004, encashable at Jammu Post Office.

Ram Sarup
REGISTRAR

Department of Chemistry
MANIPUR UNIVERSITY

IMPHAL-795003

Advertisement

No. MU/CH/PCN/CSIR

Applications are invited in the CSIR scheme entitled "Studies in Kinetics and Mechanisms of Fast Multistep Coordination Reactions" at the Manipur University for one of the following posts depending upon availability. Research Associate (Rs. 2200-100- 2700) or Senior Research Fellow (Rs 2100) or Junior Research Fellow (Rs. Qualifications as per CSIR regulations research experience in project related areas will be desirable. M.Sc. with Physical/Inorganic Chemistry.

Apply to Principal Investigator latest by May 7, 1991. Duration of appointment three years or till termination of the scheme.

Prof. P.C. Nigam
PRINCIPAL INVESTIGATOR

COCHIN UNIVERSITY OF SCIENCES AND TECHNOLOGY

KOCHI-682 022

B.Tech. Naval Architecture & Ship Building

Admission Notice – 1991-92

Applications are invited for admission to the B.Tech. degree course in Naval Architecture and Ship Building.

ELIGIBILITY: A pass in pre-degree examination with first class from any of the Universities of Kerala or the examinations of any of the other University accepted by the Syndicate of this University as equivalent thereto with Mathematics, Physics and Chemistry as subjects of study. A relaxation of 10% in the aggregate mark is allowed for candidates belonging to SC/ST.

SELECTION: Eligible candidates will have to appear for a comprehensive written test in Kochi at their own expenses, and those who pass the test will be required to appear for a viva- voce. Admissions will be governed by rules of reservation applicable to professional courses in Kerala.

Request for application forms and prospectus should be addressed to the undersigned accompanied by a self-addressed envelope (23x10cm) stamped for Rs. 2/- alongwith a crossed postal order for Rs. 60/- (in denominations of Rs. 50 + 10 preferably) payable to the Head of the Department of Ship Technology at Kochi-22, Post Office (Rs.10/- in the case of SC/ST candidates). Application forms can also be had directly from the Department Office on payment of Rs. 60/- . Completed applications should reach the undersigned before **30 April 1991.** Those who are expecting 1st class of pre-degree examination of the Universities in Kerala or equivalent may also apply.

V.J.Pappoo
REGISTRAR

INSTITUTE OF PHYSICS

autonomous Institute under Dept. of Atomic Energy, Government of India)
P.O. Sainik School, Bhubaneswar-751005, Orissa

pplications are invited for the one year Predoctoral Course in Physics sponsored by the itute of Physics, which is to commence with effect from August 1, 1991. After successful pletion of the course, candidates have scope for carrying out research leading to Ph.D. ree. Those who have passed/appeared M.Sc. examination in Physics and allied disciplines eligible to apply.

election of candidates will be made on the basis of written and oral tests. Those selected receive a fellowship of Rs. 1, 800/- per month for the duration of the course.

he prescribed application form and prospectus can be obtained from the Registrar of the titute. Completed forms should reach the Registrar of the Institute by **1st June, 1991.** ndidates called for interview will be paid single round trip second class train fare.

DIRECTOR

NSTITUTE FOR SOCIAL SCIENCES AND RESEARCH

GREENWOODS, VELLORE-632 006

Eleventh Academic Year

Two-year Full-time Programmes

1991-93

1. Master of Business Administration (MBA)
   (9th Batch)
2. Master of Tourism Administration (MTA)
   (2nd Batch)
3. Masterof Social Work (MSW)
   (9th Batch)
4. Master of Science in Extension Education
   (M.S. Extn. Edn.) (2nd Batch)
5. Master of Science in Rehabilitation (M.S. Reh.)
   (1st Batch)

Graduates of any discipline with 45% and above marks are eligible. For all the programmes, Entrance test will be conducted on 10.6.91 at Vellore. Classes will commence on 10.7.91. Cost of Prospectus and Application Form is Rs. 50/- by M.O./D.D. drawn in favour of the Institute.

ne:25808

REGISTRAR

NATIONAL DAIRY RESEARCH INSTITUTE

(Deemed University)

(Indian Council of Agricultural Research)

KARNAL - 132001 (Haryana)

Admission Notice: 1991-92

A competitive written examination on all India basis for admission to Ist year B.Tech. (Dairy Technology) M.Sc. Dairying and Ph.D. Dairying in the following disciplines will be held at Karnal, Bangalore, Bombay, Kalyani (near Calcutta), Allahabad and Anand on 25th and 26th June, 1991.

A. **B.Tech. (Dairy Technology)**

Eligibility : 10+2 or its equivalent examination with Physics, Chemistry, Mathematics and English from a recognized Board/University with 55 percent marks (50 percent marks for SC/ST candidates) or equivalent GPA in the aggregate of Physics, Chemistry and Mathematics.

B. **M.Sc. Dairying in** Dairy Microbiology, Dairy Chemistry, Dairy Technology, Animal Genetics & Breeding, Livestock Production & Management, Animal Nutrition, Animal Physiology, Animal Biochemistry, Dairy Economics, Dairy Extension, Dairy Engineering and Animal Biotechnology.

Eligibility : Bachelor's degree with 55 percent marks (50 percent for SC/ST candidates) or equivalent **GPA** in the concerned discipline or its cognate branches of natural sciences or social sciences or technology. Details are provided in the Information Bulletin.

C. **Ph.D. Dairying in** all the above disciplines as in 'B' except Animal Biotechnology.

Eligibility: Master's degree with 55 percent marks (50 percent for SC/ST candidates) or equivalent GPA in Dairying in the concerned discipline or its cognate branches of natural sciences or social sciences or technology from a recognised University. Details are provided in the Information Bulletin.

RESERVATION : Fifteen percent of total seats in each programme are reserved for Scheduled Caste and 7.5 percent for Scheduled Tribe candidates subject to their being otherwise eligible.

HOW TO APPLY : Information Bulletin and prescribed application form can be obtained in person by submitting a Crossed Indian Postal Order/Bank Draft for Rs. 30/- at the Counter of the University or for Rs. 40/- by post. The request for the form be addressed to the Joint Director, N.D.R.I., Karnal-132001 (Haryana). The I.P.O./Bank Draft be drawn in favour of **'ICAR UNIT, NDRI, KARNAL'** at bank located in Karnal. Information Bulletin will be available by post from 24.4.91 to 26.5.91. However, it can be purchased at the counter by 31st May, 1991.

Last date for receipt of applications completed in all respects and accompanied with the prescribed examination fee in this office is **31st May, 1991** and applications received after this date will not be considered.

The request for Information Bulletin should give following information : 1 Name (in capital letters), 2. Full address (in capital letters), 3. Course (B.Tech./M.Sc./Ph.D.) for which application/information bulletin is required, 4. Details of the postal orders/bank draft enclosed.

NOTE: Those who have appeared or those who are unable to submit the marks of qualifying examinations with the application can also apply. But the marks and result of the qualifying examination must reach the Joint Director, N.D.R.I., Karnal- 132001 positively by **15th July, 1991,** preferably by Registered Post.

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ISSN [illegible]

University News

APRIL 29, 1991

Rs. 2.50

Amravati Varsity Convocation

रावती विद्यापीठ अमरावती
दीक्षांत समारंभ
फेब्रुवारी १९९१

From L to R : Dr. Anil Warhade, Minister of State for Education, Govt. of Maharashtra, Shri Madhukarrao Chaudhari, Speaker, Maharashtra Legislative Assembly, who delivered the convocation address and Dr. K.G. Deshmukh, Vice-Chancellor of the University

UNIVERSITY OF ROORKEE

ADMISSION TO POSTGRADUATE PROGRAMMES 1991-92

1. Master's Degree Pogrammes (M.E/M.Tech/M.Arch.M.U.R.P.) of $1\frac{1}{2}$ years (3 Semesters) Duration

(a) Department of Architecture and Planning
- Architecture *†Urban and Rural Planning * Building Science and Technology (offered by C.E. Department)

(b) Department of Chemical Engineering
- Advanced Transfer Processes * Computer Aided Process Plant Design * Industrial Pollution Abatement

(c) Department of Civil Engineering
- Building Science and Technology * Computer Aided Design * Environmental Engg. * Geotechnical Engg.
- Hydraulic Engg. *⊙Remote Sensing & Photogrammetric Engg. * Structural Engg. * Transportation Engg.

(d) Department of Earthquake Engineering
- Soil Dynamics * Structural Dynamics

(e) Department of Electrical Engineering
- Measurement and Instrumentation * Power Apparatus and Electric Drives * Power System Engineering * System Engineering and Operations Research

(f) Department of Electronics and Computer Engineering
- Communication System * Control and Guidance* Microwave and Radar * Solid State Electronics * Computer Science and Technology * T.V. Technology (extension programme of PG Diploma)

(g) Department of Mechanical and Industrial Engineering
- Machine Design Engg. * Production and Industrial System Engg. * Thermal Engg. * Welding Engg.

(h) Department of Metallurgical Engineering
- Extractive Metallurgy * Industrial Metallurgy * Physical Metallurgy

(i) I.P.T., Saharanpur
- Pulp and Paper

ELIGIBILITY FOR ADMISSION
- Bachelor's degree in the appropriate field of Engineering/Technology/Architecture

† Alternatively Master's degree in Geography

⊙ Alternative qualifications for trained officers exist

∇ M.Sc. (Physics or Mathematics)

2. Postgraduate Diploma Programmes of 1 Year (2 Semesters) Duration

(a) Department of Earthquake Engineering
- Earthquake Engg. * Earthquake Technolog (only for sponsored candidates)

(b) Department of Electronics and Computer Engineering
- Television Technology

(c) Department of Humanities and Social Sciences
- @ Industrial Management

ELIGIBILITY FOR ADMISSION
- Bachelor's degree in Engineering or Master's degree in Science in appropriate disciplines

@ Alternatively Master's degree in Economics/Psychology/Commerce with Mathematics at Bachelor's degree level

3. M.Phil. Programmes of 1 Year (2 Semesters) (Duration)

(a) Department of Chemistry
- Industrial Methods of Chemical Analysis

(b) Department of Mathematics
- Computer Applications * Mathematics

(c) Department of Physics
- Instrumentation * Material Science

ELIGIBILITY FOR ADMISSION
- Master's degree in science in appropriate disciplines/B.E.

4. M.Tech. Programmes of 3 Years (6 Semesters) (Duration)

Department of Earth Sciences

Applied Geology □ Applied Geophysics

ELIGIBILITY FOR ADMISSION

Bachelor's degree in Science in appropriate disciplines

5. M.Sc. Programmes of 2 Years (4 Semesters)

□ Applied Geology □ Applied Mathematics □ Biosciences □ Biotechnology* □ Chemistry □ Physics

ELIGIBILITY FOR ADMISSION

Bachelor's degree in Science in appropriate disciplines

* Sponsored by Department of Biotechnology, GOI

Information Bulletin containing Application form can be obtained from the office of the Assistant Registrar (Academic), University of Roorkee, Roorkee-247 667 on payment of Rs. 50.00 (Rupees Fifty only) by University receipt/Bank Draft payable to Registrar, University of Roorkee, Roorkee, in person or by sending a self- addressed 22x30 cms. envelope with postage stamps of Rs. 2.00 affixed to it. Separate application form should be filled fo courses belonging to different departments. Candidates who have appeared in the final examination of qualifying degree are also eligible to apply for admission. They will be considered provisionally for admission provided they submit a certificate of having completed all examination requirements of the final qualifying examination. 2 seats are reserved for SC/ST candidates. Last date for receipt of complete Application Form in concerned departments is **June 3, 1991.**

H.K. Varma
REGISTRAR

NIVERSITY
NEWS

XIX APRIL 29
1991
Rs. 2.50

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or :
INDER SINGH

Knowledge: Imported and Indigenous

Amrik Singh*

C. F. T. R. I., MYSORE

It had to happen one day and it has happened. A ban on imports was on the cards. When exactly it would happen was a question of time. Now that it has happened, it is time to look at some of the implications of the decision taken.

Along with other imports, import of books and journals too have been banned. The quantum of funds involved in this case is not large but, in terms of its long range impact, it would be far out of proportion to the sum involved. More precisely, educational and cultural life is so closely linked with, and indeed dependent upon, imported knowledge, that, if the decision is not reversed within the next few months, it would unsettle things to quite an extent.

According to the data available, book imports are worth one hundred crore per year. Only half a decade ago, these were closer to the value of books and journals exported which ranged in the neighbourhood of 25-30 crores per year. In fact the latter figure has remained by and large stagnant whereas the figure of imports has been rising. How did this come about is a question that needs to be brought into the open.

Because of the Open General Licence (OGL) in respect of books, a number of racketeers got into the act and started importing what are now as remainders. For a coupie of decades now, both American and British publishers have adopted the policy of unloading the stock of unsold books on the market in substantial numbers. In good old days these books sold slowly and gradually. In the world of today, everyone including the publishers wants a quick turnover. There are instances where books are sold at 5 or 10 parcent of the original prices and often these books are not all that out of date and are sometimes as recent as 2 or 3 years only.

What some of the entrepreneurs in our country have been doing is to buy these books at dirt cheap prices and sell them either at their published price or a reduced price. If a book with a sale price of $ 50 is made available for a little over Rs. 100/-, everyone feels tempted. In the case of an individual, he buys a particular title because he likes it. In the case of library purchases however, underhand practices are resorted to often. Librarians are bribed to buy such titles.

Our system is such that, more often than not, such decisions go unchallenged. The academics who should be more directly concerned with the quality of the titles selected are on the whole indifferent. In this situation either the librarians manage things on their own or they get the consent of the academics to buy the titles that they wish to buy. And, in the bargain, the whole system of book buying gets corrupted.

This scandal has existed for several years and is known to everyone, including the government. But such has been the callousness of our decision makers that nobody took any pre-emptive or preventive action. It was not so difficult to deal with the problem. All that the government has to lay down was that books published only during the preceding two years would be on the OGL. Others, if required, would be regulated in a certain way.

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The import of the latter category of books would not have been even one crore per year whereas the quantum of those in the OGL would have hovered in the neighbourhood of 20-30 crores per year or maybe a little more. Till this boom of remainders got underway, the quantum of book imports was around that figure. It was only the import of 'trash' if one may put it that way, that the situation went out of hand — so to speak. In other words we have allowed the situation to become untenable and now when a general ban has been imposed everyone feels upset.

Journals fall into a somewhat different category. The import of books can be delayed, even staggered. But this cannot happen in the case of journals. They are published every few months and it is important to maintain the regularity of flow and indeed ensure that not even a single issue is missed. The situation on this front has been critical for some time.

At Prof. Yashpal's initiative, a proposal was worked out in terms of which the whole range of foreign books and journals could have been regulated and their overall import in consequence curtailed. Nobody opposed the proposal but the outlay proposed for it in the current Plan is so small as to more or less come in the way of its getting off the ground.

A few years earlier, the UGC had also evolved a system in which some of the university centres (the Indian Institute of Science, Bangalore, in respect of sciences — for example)issued a monthly list of articles published in the various periodicals and it was open to any university to ask for a reprint and so on. The system has got started but it has not caught on because of various factors at work, the most important of them being the indifference of the academics and the librarians. In plain words it is time now to look at this project too afresh and give it a fillip.

That the issue is serious could be evident from the following figures. According to the Professors' Forum in Delhi University, the number of science journals subscribed to in 1989 was 695 but in 1991 it came down to 35. What happens in the current year remains to be seen. Funds of the required magnitude are not available and hence the problem.

Two things have been suggested so far. One is to permit some imports and ensure the availability of such books and journals as are indispensable for scholarly and scientific work. The second is to regulate the imports in such a way that the total outlay can be drastically reduced and research work still be carried on in the manner already described. There is a third dimension also and it needs to be looked at closely now.

While knowledge is international in character, particularly in the sciences, a good deal of it can also be generated indigenously. All these years we have never paid much attention to this problem. Had we done so, the situation in our universities would not have been dismal. On the contrary, the role that we have accep is that of becoming a satellite to the sun which across the Atlantic. Almost every scholar and scien in India is hooked on to what happens in the U.S.

A large number of them go to that country postgraduate or post-doctoral work. That in conse quence quite a number of them stay on for good sho not be such a surprise. Not so long ago, the Departme of Science and Technology estimated that 40 percen the talented Indian scientists were to be found in country. There are people who disagree with this timate and maintain that the proportion is much high Whatever be the truth, the fact remains that links w foreign universities and research laboratories, wh have to be there in any dynamic system, are permitte to shape and determine our policies and prioritie Worse than that, sometimes we become depende on what is happening elsewhere.

If we have to grow as a nation, we must learn stand on our own feet, manufacture our own equipmen evolve our own ideas and technologies rather than port everything, lock, stock and barrel. This wou require a total reorientation in the ethos of work, academic and personnel policies and half a dozen oth related things. One cannot go into these issues he except to underline the point that if we have to grow a nation, among other things, we must also learn generate our own knowledge, and stand on our fe Self reliance has to be the goal not only in industry bu in every sector of activity. In a sense this is a contradic tion in terms. As stated above, knowledge is interna tional in character. At the same time it must recognised that there is another dimension to it too.

Internationalism in knowledge does not mean th we only import. It can and should also mean that so proportion of it is produced indigenously and qu some proportion of it is exported also. The latter har happens as of today. What this crisis of foreign change should oblige us to do is to re-examine policies, procedures as well as our priorities. Both th UGC and the Department of Science and Technolo have a key role to play here. They understand th respective areas of work and they should see to it th their perceptions come·to be accepted by those take decisions in regard to the policies concerned imports.

Quite some people would regard this scenario much too ambitious. While there is no cure for fidence or lack of confidence, it is not contended we can be totally self sufficient in this field, as in sev other fields. But surely it is legitimate to make out a for better terms of trade in the field of knowledge scholarship as much as in other channels of comme

Academic Grooming for Social Justice

Anand P. Srivastava*

paratively social justice is a complicated theme. ot be executed and done by a stroke of pen larly in the academic arena. Here, it is essential that in certain families children open their eyes children's books, picture books, sophisticated s and fairly developed environment in idea and planes. While in certain other families the cattle eeps neary and avenues for cognitive develop- remain absent. The thought cycle does not e and culture of silence prevails. If somehow the n of the latter families proceed through various of education, their educational fibre remains r. They may be used in any walk of life, but it will hard, if not impossible, for the adults under the category to teach the adolescents of the former ry.

rder to do proper social justice it shall be essen- hat the adults of disadvantaged and deprived ry are given necessary compensatory input by ademic community so that they could stand in the ooms of universities and colleges as scholars with mic roles rather than an entity of ridicule, frustra- nd failure.

l Ideas

per analysis should show that the kernel ideas d scheduled community's reservation-quota r affirmative action in universities should be :

) social equality,

i) no reverse discrimination,

ii) mechanical quota or affirmative actions, and

v) grooming in academic/learning skills.

t of the four kernel ideas (i) and (ii) are essential epts and objectives to be achieved but among selves are not the needed action(s), unless mere become human deeds. The rule of mechanical (iii) may be merely a crude device. It is only item cademic grooming which demands a challenging n action. Mechanical quota system has practi- not succeeded fully and properly. It has also cted benefits to limited number of families and vast ers remain where they were since ages. Mechani- uota device should compare with routine type of sub-standard activity, resembling to a solution made in dream-like state of sleeping. It befits political life, may be applied in administration without causing much damage, but shall not suit sound academic life, where a teacher performs solo in his subject for preparing new generation. A sub-standard teacher should be the greatest curse that a society suffers, not that sub-standard teachers are not already there without reservation quota. But why have more ?

Affirmative Action Policy

The Supreme Court's verdict may limit reservation only to local lists, but for widening benefits of social equality we have no option but to choose the alternative of Affirmative Action Policy which shall give us a bigger catchment area. For example, a national university of Delhi's stature cannot depend exclusively on a narrow local list. A local list may suffice for administrative life but not for academic life where local is the narrowest contrast of the universe, from which the term "University" is drawn. Hence concept of reservation based on local list, must be rejected if the University has a choice; and sincere affirmative action plans of academic grooming of SC/ST be adopted at all levels of teaching profession.

Affirmative action policies should start from the higher levels (Professors and Readers) so that grooming of youngsters be done properly by their seniors in the environment of universities like Delhi University. Since such universities are starting late in this direction, they have the advantage of drawing on resource talent of this community in many state universities of the country. As per earlier tradition, we (at Delhi University) and others could draw teachers, even on equal ranks, from the state universities, who are already experienced senior faculty and who could be willing to pick up and groom their community's youngmen in academic excellence for large scale recruitment as lecturers in a phased manner. For accommodating suitable hands at all levels supernumerary positions and UGC fellowships, etc., shall have to be created, so that reverse discrimination is invariably avoided. Our advertisements in future should clearly state that supernumerary positions shall be created if necessary for scheduled caste candidates.

We have to remember the value of one great affirmative action of historical value, in the style of Maharaja

(Contd. on page 11)

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f Librarian, University of Delhi,
110007.

National Academy of Sciences
A Saga of Sixty Years

Onkar Nath Srivastava*

Before breathing his last Moses besought his people not to neglect their past. "Remember the days of old, considers the years of many generations : ask thy father, and he will show thee thy elders, and they will tell thee'.

History as a study of past, is something enduring, an ever present reality and a chain of causality. Carlyle said that if history had long been the root of science, in future science would be the root of history. Currently we are passing through times when science is shaping history in a big way.

The contribution of Indian thought to the field of Science has been quite significant in ancient times. In recent decades the Indian response to western science also has been noteworthy as is reflected in the activities of a number of scientific organisations which have started functioning only in the current century. The National Academy of Sciences, India, which completed 60 eventful years of its existence, held a meet in Delhi to celebrate its Diamond Jubilee on February 13, 1991 with His Excellency R. Venkataraman, President of India as the guest of honour. The remaining programmes of the Diamond Jubilee will be held at Allahabad on May 3-5, 1991 when an important item, the symposium on "Science & Technology in 2000 A.D. and Beyond" will be inaugurated by the Prime Minister Shri Chandra Shekhar. As such, it is meaningful to probe the past of the Academy, note the series of significant changes, and see how the events associated with it have fallen into some kind of perspective.

During our national struggle for freedom, although our primary and immediate objective was political independence to create a sovereign republic of India, we nursed a number of other equally important concerns. Besides looking forward to fostering social and economic progress, the building of republic of science was also very much there in the picture of a free India. It might be worthwhile recalling Alvin Weignberg who observed, "Of all the traits which qualify a scientist for citizenship in the republic of science, I would put a sense of responsibility as a scientist at the very top".

In making their contributions to the social and economic progress of the people, scientists have to de with issues involving social responsibility e.g. prop use of nuclear energy, toxic chemicals, radioac materials etc. The central role of scientific respo sibility, however, is equally relevant for the scientist w is working out basic problems in the laboratory or thought and calculation. He has to maintain wh Robert Merton called, the ethos of scinece, involvi the acceptance or rejection of reported findings of ot workers in the field and the acknowledgement of the debts, for every contribution always builds upon work of others. Science after all, is a commu enterprize.

Hence communication is so very vital to mode science whose basis is constituted by verifiable a reproducible observations. While scientific discover are made by individuals it is necessary that their proc dures should be open to public inspection, others shou be able to make the same observations under simi experimental conditions. Then alone scientific d coveries are accepted and assimilitated into the body science. Basically science is ontological, n phenomenological.

Notwithstanding our notable achievements in field of science in ancient India, as experiment beca an integral and important part of scientific study a better tools became necessary for investigations c stituting modern science, we under the adverse imp and influence of foreign domination, could contrib little and science suffered a great deal. Howe remarkable persons like J.C. Bose, C.V. Raman a others struggled hard and made noteworthy efforts lay the foundation of modern science in this coun Even with inadequate facilities marked by lack sophisticated instruments, their contributions h made their mark.

The year 1929 is eminently significant. In that while Pt. J.L. Nehru heralded the historic Lahore laration for complete independence and laid the dation of the republic of sovereign democratic Dr. M.N. Saha, Prof. of Physics at the Univers Allahabad laid the foundation of the repu Science. by writing an article appearing in the lahabad University Magazine which focussed on the problems of communication and public the works of Indian scientists. He lamented

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f the peer groups referred to above and mooted ea of having an academy of sciences formed the f its kind in India. Prof. C.V. Raman, in one of his es published in Current Science wrote, "An emy of science is not an ornament but an indis-able institution for direcing the destinies of the n."

January 1930 two congregations were held at abad which were devoted to human endeavour in ursuit of truth. One of them was held at the Magha a grounds on the bank of holy Ganga and the other ort distance away, at the University of Allahabad, named the Oxford of the East where scientists from nd wide assembled to participate in the 17th session e Indian Science Congress. It may be wondered if congregations in close proximity promote the ving view that there is an unbreakable bond between arts, humanities and science; between technology culture.

Be that as it may, the scientists who had assembled Allahabad approved Dr. Saha's idea and gave it a ctical shape by taking a decision to found the first demy of sciences, to which came forth the moral and netary support from the then governor of the vince, Sir Malcolm Hailey. Although at the time of registration in 1930 it was named "The Academy of ences of United Provinces of Agra and Oudh" very on in 1936, the same was changed to "National ademy of Sciences, India" in keeping with its lofty irations and widespread functioning. In the first r Prof. Meghnad Saha was elected the President of Academy. The other office bearers who were cted were Prof. N.R. Dhar and Prof. K.N. Bahl as ce Presidents, Prof. D.R. Bhattacharya as Treasurer d Prof. P.S. Mac Mohan and Prof. A.C. Banerji as neral Secretaries. The Governor of UP is the Ex-icio patron of the Academy.

The contribution of the University of Allahabad to Academy has been marked not only by its dedicated en but also by its magnificent mansion for over two cades, the Faculty of Science of the University of lahabad housed the office of the Academy. Thanks the munificence of the saintly Dr. N.R. Dhar, Profes-r of Chemistry, University of Allahabad; who nated to the Academy a plot of land at Lajpatrai oad, the Academy has its own building now. Its foun-ation stone was laid by the then Education Minister .P., Dr. Sampurnanand, a famous educationist and nskrit scholar who on that occasion stressed the need starting research in Space Science. In course of time, e building of the Academy proved inadequate, par-cularly in respect of Library facilities. The philanthropic Dr. Gaur Hari Singhania of the J.K. Trust, gave a handsome donation so that the elegant Dr. Sir Padampat Singhania Library Hall with attendant rooms was added to the building of the Academy in 1987. In addition to the journals which are being subscribed by the Academy, more than 125 scientific periodicals from over a dozen countries are received on exchange basis.

One of the important activities of the Academy has been the publication of its journals. The first issue was brought out in 1931 under the name of the "Bulletin of the Academy of Sciences of United Provinces of Agra and Oudh". With the change in the name of the Academy itself the name of the journal also was changed to "Proceedings of the National Academy of Sciences, India". With the increase in the research activity in science the number of contributed articles swelled up, requiring the journal to be split up into two sections – Section A including papers in Physical Sciences and Section B papers in Biological Sciences. Further, in 1978 the Academy started a monthly journal, "The National Academy of Sciences Letters" for prompt publication of short communications particularly the ones whose value and significance get considerably diminished with the passage of time. On the occasion of the silver jubilee of the Academy in 1955, the then President of the latter, Prof. P.L. Srivastava mentioned with justifiable pride that more than 700 original papers had been published in the Proceedings. Among its contributors besides Indian and foreign professional scientists, were also intellectuals of the stature of Honb'le Shah Mohammad Sulaiman, Chief Justice of Allahabad High Court who was the President of the Academy (1938-40) and prompted its activities in many ways. With Professor H.C. Khare the present General Secretary of the Academy functioning as the Managing Editor, the Proceedings has shown marked improvement and is running upto date. The publications of the Academy reflect the research front in the field of science. It has been impressive both from the point of view of output and impact. The profuse citation in other Indian and foreign journals of the articles published in the Proceedings amply testify this.

Besides the annual sessions, the Academy has been holding symposia, seminars and workshops on subjects of national and scientific import. The presidential addresses delivered at the annual sessions are not only indicative of the topical and diverse interests of the Academy but also of the state of art, status and social impact of the advances being made in the different branches of science. Topic-wise they cover a wide range – from "Marine Environments and strategies for its protection", delivered by Dr. S.Z. Qasim in 1984 to

"Evolution of Man" delivered earlier by Prof. H.R. Mehra of the University of Allahabad. In recent years, the presidential addresses were delivered by Dr. T.N. Khoshoo (1985-86) on "Ecosystem versus Soico-Economic System" and on "Environmental Education for Conservation and Development" Prof. M.G.K. Menon (1987-88) on "Science and Technology for National Development – Role of Scientific Community" and on Global Science – An Urgent Need". In 1989 Dr. M.S. Swaminathan in his presidential address talked about the measures to meet the challenges facing India during nineties. The addresses impel us to indulge in forecasting in the field of science by constructing alternatives in the development of fundamental and applied research by the assessment of different factors. Those who have attended and participated in these intellectual feasts have found them very invigorating and rewarding. These discussions have prompted society to consume the discoveries and new knowledge.

The Golden Jubilee of the Academy was celebrated in 1980 with Prime Minister Mrs. Indira Gandhi as the guest of honour. She referred to science and technology as developed outside the universities of India and showed how they helped create a large body of the scientists and technologists who would form "sinews of self reliance". But she also remarked that the time has come once again to strengthen science in universities without any depreciation to our specialised laboratories.

Indeed, the Golden Jubilee session could be regarded as a watershed in the history of the Academy. The marked increase in the number of its members and fellows, its excursions to new and far off places to hold its annual session reaching the extremities of the sub-continent, evincing its wide popularity, extension of its building to provide better library facilities so very vital for any intellectual pursuit and similar other big and small developments are some of the aspects which could be obvious to all and sundry. What requires a little effort and penetration to perceive is the perceptible change in its orientation torwards applied science, its concern for improving the quality and standard of its research and publications and above all, its involvement in programmes which are concerned with translating its objectives into action relating to the welfare of people.

The Academy has been awarding U.P. Education Minister's Gold Medal since 1936 and SICO sponsored National Academy of Sciences, India Award since 1986. A few lectureships and awards in the names of Prof. Meghnad Saha (Physics), Prof. N.R. Dhar (Chemistry), Prof. A.C. Banerji (Mathematics), Dr. P. Sheel (Rural Development), and Prof. S.R. Sinha (Botany) have been instituted to honour them. This year Prof. A.C. Banerji award lecture was delivered by Dr. Hermann B F.R.S. of the University of Cambridge, U.K. at Delhi 19th November 1990 while lectures in commemoration of Prof. Saha, Prof. Pal and Prof. Dhar will be delivered by Prof. A.P. Mitra, Prof. M.S. Swaminathan and Pro R.C. Mehrotra respectively. During the Diamond Jubilee Session Prof. S.R. Sinha Memorial Lecture will be delivered, by Prof. K.S. Bilgrami, a recipient of the Academy's Education Minister U.P. Gold Medal.

In the initial years, the Academy was greatly handicapped. It received a meagre grant from the U Government. For the first time a grant was received from the Government of India in 1972 when Dr. N Dhar was the President. Subsequently the Department of Science and Technology, Director of Higher Education of U.P., Indian National Science Academy, University of Allahabad and few other agencies of the government have followed suit and included the Academy in the list for financial support. Yet considering the rate of advancement of Science in the contemporary world and the enormous funds which the developed countries are pouring into the scientific research programme, the Academy in India stands nowhere

As one views history as a chain of causality one cannot fail to mark the praise worthy role and contribution of the dedicated scientists like Prof. Krishnaji and a few others who have helped bring the Academy to its present exalted position. Its rise has been particularly fast during the post Golden Jubilee period owing to the dynamism of the office-bearers who were at the helm of its affairs. Two names among them, immediately flash to mind. If Prof. M.G.K. Menon with his visionary imagination and acumen of not missing the forest for the trees, besides his deep knowledge and rich experience in diverse fields was greatly instrumental in giving a new orientation to the activities of the Academy, it was Prof. U.S. Srivastava who with his Jesuitical single mindedness and unique capacity of evoking interest and cooperation all round operated admirably at the level of giving shape and shine to the policy and programmes of the Academy.

On the occasion of the Diamond Jubilee of the Academy, it has chalked out a very interesting, impressive programme. Among these, the centre of attraction is the symposium on "Science and Technology in A.D. and beyond."

As the Academy has completed 60 years of its existence in India and the world, it intends to indulge dreaming about the condition of the 60 years hence to make some sense of the situation as would

ding itself and the nation to which it belongs.
ing academicians of the country – including
Swaminathan, Dr. S. Ramachandran, Prof.
Dr. N. Seshagiri, Dr. A D Bradshaw, Dr. T.N.
Prof. Govind Swarup, Prof. R.C. Mehrotra
P.N. Tandon are likely to address and an-
e future and arouse us to contribute our bit to
The Planet Earth in jeopardy' and safeguard
mon Future' in peril. The relevance of the
m is indicated by the fact that today man is
groping on unknown paths that have been
p by the terrific, perhaps terrifying pace of
ent, of science and technology whereby choice
ng a more urgent and significant aspect of life.

God the Gulf war did not escalate into a world
wever one is reminded of the words of caution
y Prof. S. Nurul Hasan in his inaugural ad-
he annual session of the Academy in 1982 when
ttention to the dangers of wars he said, "Scien-
not remain oblivious ...Their voice must be
favour of peace." May I in all humility, add,
exhort the scientists particularly of this great
'Scientists, must you continue to be silent and
r laboratory only!"

he maturity that the Academy has acquired, is
time when so much is at stake, for it to assert
emphatically that the national academies of science cannot be treated merely as debating societies as feared by the founder president of the National Academy of Sciences, India, Prof. M.N. Saha and given vent to in 1955 on the occasion of its silver jubilee. Let the scientists draw inspiration from what Mrs. Indira Gandhi said at the time of its Golden Jubilee. She urged scientists... collectively through organizations like this Academy engage in a constructive dialogue with government. "Instead of scientists seeking directive from the government, we expect ideas to flow from scientists and academicians to governments".

In the republic of science which man has created, he is giving up his own sovereignty as human being, he is losing his perspective despite the fact that science broadens one's perspective, he is falling a victim. Let us hope that the resonant note of the symposium would be the Indian attitude to science and technology with its humanising overtones as emanating from its metaphysical strings fixed to the soul of man, soul being something, the attributes of which inspire man to become human, and to enrich his humaneness. Let us further hope that in the post diamond Jubilee period this Academy of Sciences, will eventually be able to find its true perspective accordingly, and will promote a kind of science marked by Indian ethos embodied in its ideals of "Vasudhaiva Kutumbkam" Sarvodaya and sustainable development. Shall we call it Indian Science?

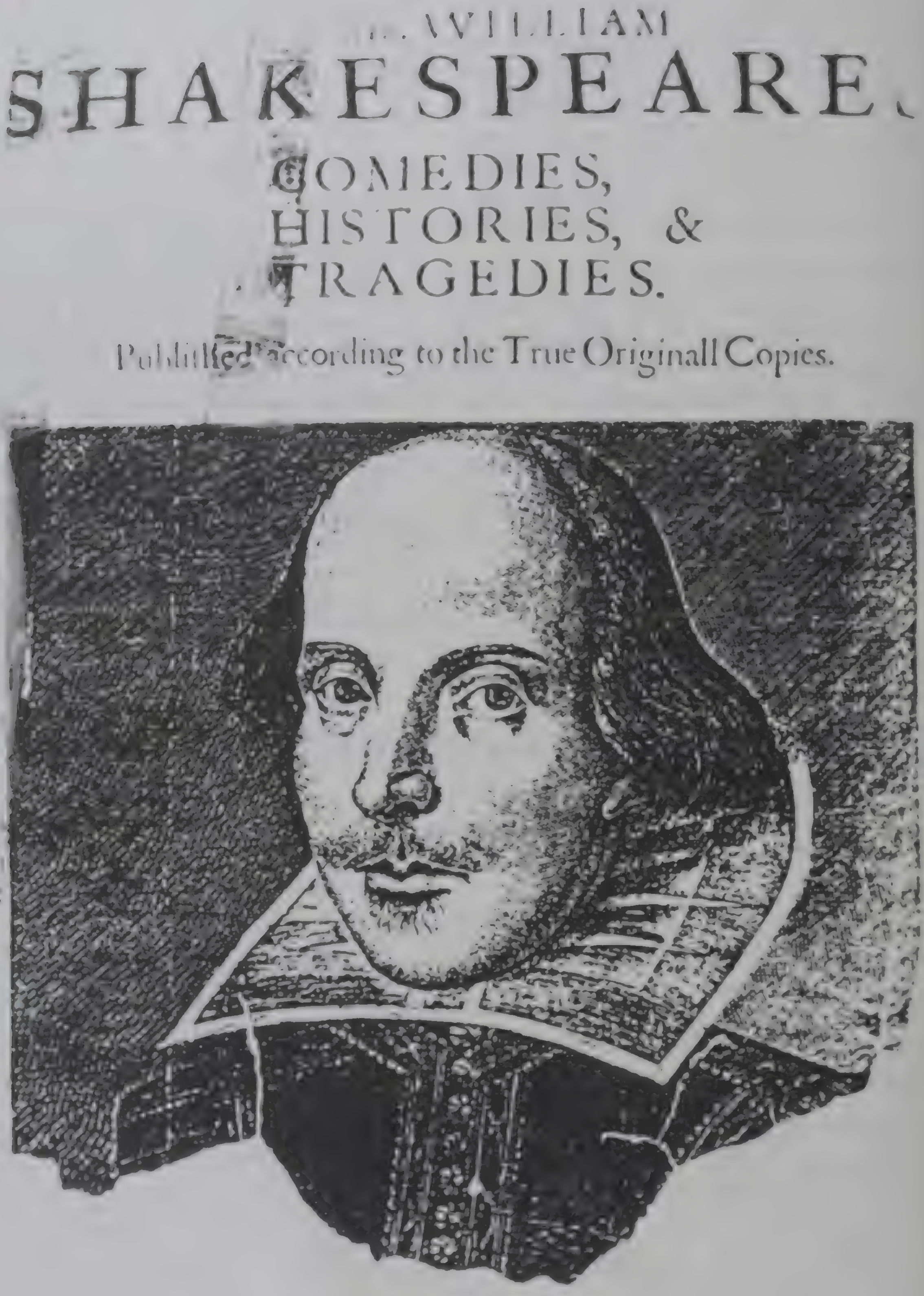
INDIAN SCIENCE CONGRESS ASSOCIATION

Announcement for Awards : 1991

or Hira Lal Chakravarty Awards : Applications in prescribed forms are invited from
lian Scientists, below 40 years of age on December 31, 1990, with Ph.D. degree, having
nificant publications in any branch of Botany-pure or applied. There are two awards,
h carries a cash amount of Rs.4,000/- and a certificate. Last date of submitting applica-
n is **July 15, 1991.**

ohra Award : Applications in prescribed forms are invited from scientists below 35 years
ge on December 31, 1990, with Ph.D. degree in Agricultural Sciences from any Univer-
or Institution in India, having made significant research contribution in any branch of
ricultural Sciences. Only research done in India will be considered for the award. The
ard carries a cash amount of Rs.5,000/- and a certificate and the awardee will be required
deliver a lecture on the topic of his/her excellence during Annual Session of the Indian
ence Congress Association in the Section of Agricultural Sciences. Last date of submit-
g application is **July 31, 1991.**

or prescribed application forms and necessary information, please write to the Indian
ence Congress Association, 14, Dr. Biresh Guha Street, Calcutta-700 017.



WILLIAM
SHAKESPEARE
COMEDIES,
HISTORIES, &
TRAGEDIES.

Publiſhed according to the True Originall Copies.

This engraving of Shakespeare by Martin Droeshout is on the frontispiece of the Folio

The Roorkee University Shakespeare

M. S. Rana *

hasten to dissipate the hazy confusion in vhich might have been created by the caption ative. The Bard was certainly born at Strat- n – Avon and not at Roorkee – upon – orkee became associated with Shakespeare Central Library possessed the most pres- l valuable First Folio of the works of Mr akespeare. It may sound incongruous to the lar of today to associate presence of a great rk in an engineering college Library. It was University of Roorkee in 1949 (Before 1949 d Thomason College of Engineering (1848- gineering students in those good old days ue social sciences and humanities as much as g. A dig at the fourth edition of the catalogue ge Library will make one chuckle and scratch o find that out of 25000 books, journals and 1914 nearly 4500 books belonged to social nd humanities. These included books on all nder the sun. In his memorandum to the General in 1847 about setting up an engineer- ge at Roorkee, Mr James Thomason Lt. of the North West Provinces wrote about the cilities at Roorkee asunder.

> establishment now forming at Roorkee the Solani aqueduct on the Ganga Canal, ds peculiar facilities for instructing civil ieers. There are also a Library and a el room."[1]

uary 1853 Mr Bayard Taylor a correspondent of York Tribune visited Roorkee via Delhi and a garree. About the Ganges Canal Library at e thus wrote.

> ile anxiously waiting for breakfast, I sed myself by reading a list of the books e Library of the Ganges Canal at rkhee, which hung upon the wall. Who ld have guessed that an humble author, in mbling about the world, should find one s works in furthest corner of India, at the foot of the Himalayas? "[2]

anges Canal Library about which Taylor had in his travelogue amalgamated with the ibrary of the Thomason College in 1856. The Folio may be a part of this collection. The prestigious collection of the East India Company's Military Seminary Library at Addiscombe in Surrey, England was also amalgamated with the College Library in 1862. Perhaps Shakespeare's First Folio under reference was one of the number of books that were transferred from Addiscombe to the Thomason College Library. In his letter to the editor of the Pioneer dated June 7, 1923 the then Vice-Principal of the College narrated that " There is no mean of tracing how this volume came into possession of the College though as the nucleus of the library originally came from Addiscombe, it is possible that the volume was one of the number"[3]

The above conclusions do not hold much water as books of the Ganges Canal Library and those received from the East India Company's Military Seminary Library at Addiscombe bear crests of those libraries while the Folio does not have any of these crests pasted on it. The Folio was housed in a specially designed black tin box measuring 45 cm. x 33 cm. The Folio measures 39 cm. x 24.5 cm. It fits well into this box, leaving enough margin for its safe lifting and replacing. Its inside lid has an ornate, multicoloured monogram of its manufacturer. The words in the monogram read asunder."By Appointment to H.E. the Governor of Bombay", "manufactured by Goolam Hussein Ismailjee and Bros. Karachi and Bombay". On the basis of the above evidence it may be concluded that some high ranking engineer, civil or military officer had presonal copy of the Folio, for security and preservation considerations he got the black box specifially made and at the time of his retirement, or out of sheer love for his Alma Mater presented this precious work to the College Library. This conclusion is further strengthened by the fact that the classification number assigned to the Folio is what was in use in 1860's in the Library. Thus Shakespeare had been in Roorkee for the last 130 years now. The Folio is listed in part 2, page 93 of edition four of "Catalogue of Books in the Central Library Attached to the Thomason Civil Engineering College," 1914.

Perhaps there were not many Bard lovers in those days in Roorkee. Unlike other books of those days, the Folio does not have doodles on it nor does it appear to have been issued out of the Library. Not a scratch of pen or pencil is to be found on its 993 pages. Perhaps it remained tucked away on the beautifully carved Burmese teakwood cupboards of the college Library. As far back as 1923, the officiating Principal Mr C.J. Veale

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n, Central Library, University of Roorkee,
- 247 667 (U.P.).

in the letter to The Pioneer thus observed, "The College copy measures $15\frac{1}{4}$ inches by $9\frac{1}{2}$, and shows that it never required guilotining when rebound; in fact the college copy appears scarcely to have been opened or made any use of, the pages being so perfect in edges and letterpress"[4]

Regarding the physical condition of the Folio the Principal wrote "Except for a few slits of less than $\frac{1}{2}$ inch in the edges of the first few pages, the volume is in excellent preservation and judging by the descriptions given of the known copies it appears to be almost an unique copy in this respect, and Sir, Sidney Lee says "The first folio is intrinsically the most valuable volume in the whole range of English literature. it is hoped that this copy will prove to be one of the fourteen (now fifteen perfect editions.")[5]

Since June 1923 to Dec. 1988 when the discovery of the Folio and its literary and antique value was verbally reported by the author to the University authorities its condition had deteriorated. It had turned highly fragile. The Folio remained imprisoned in the black box for full 66 years. It had not seen the light of the day.

The black box provided full protection against silverfish and other bookworms, but total absence of air and sun light had a telling effect on the health of the Folio. Over the years,the paper turned highly brittle, some of its portions developed crackings. It appears that two types of printing papers were used in the making of the Folio. Because of highly acidic effect, some portions turned yellow while some others turned grey. It is informed that one expert from the UNESCO had visited the University in 1952; he had the opportunity of seeing the Folio and had appreciated its antique and literary value. The first conservation report prepared at the instance of the Government of India by a team of experts from the National Museum, New Delhi gives a very dismal picture of the physical condition of the Folio. The report says, "The Folio is in a very bad state of preservation and difficult to handle, highly fragile, acidic (PH below-4), highly brittle, changed of colour, crackings, most of the pages torn, few are stained due to use of cello-tape, some portions of the Folio are missing, binding completely torn."

Following the report of the Librarian, the Vice-Chancellor and Director, Library visited the library and examined the Folio. The title page of the work including Principal Veales' letter to the editor of The Poineer were xeroxed to make discreet enquiry about the antique value of the Folio. Since the news about the volume had spread among antique art dealers and Shakespeare scholars in the country and abroad made suo moto enquiries about the Folio. Fear mishap with the Folio, it was immediately transfer the Vice-Chancellor's chest and later on the un authorities deposited it for safe custody in the the State Bank of India on Feb. 7, 1989.

The news about the Folio also reached the sensitive ears of the media persons. To the surprise of the university authorities a story ab appeared in the *Sunday Mail* of June 11-17, 19 was scooped by Mr Nilanjan Mukhopadhyay. I followed by two features in the Illustrated Wee India of June 25- July 1 and India Today of Ju A conscientious Director (Antiquity) filed a tele university informing it of the provisions of Antiqu Art Treasure Act 1972 which prohibits export o antiquity of art treasure out of the country. The sity officials held discussions with the Directors o Archaeological Survey of India, the National Mu the National Archives as well as with the officials o Ministry of Culture to determine the best cou action for the university. It emerged from these di sions that the First Folio should be transferred t National Museum for safe keeping and for taking for its preservation. The Folio has since been t ferred to the National Museum, New Delhi.

Mr Mukhopadhyay in his article "Million P Shakespeare Folio Found" reports "The First Fol folio is a collection of printed papers folded only o was printed in 1623 seven years after the Bard di 1616. By far the most authentic of Shakespe original works, it was edited by two of his actor fr John Hemminge and Henry Condall. The colle has 36 plays and was dedicated to the Ear Pembroke and Montgomery. The 908 page volu double columns is split into three sections and the is entitled "William Shakespeare's Comdies, His & Tragedies."[6]

The Roorkee Shakespeare differs from the description of the First Folio in more than one res One, the total number of pages are 993 (excludin unnumbered pages of "Troilus and Cressida") an 908 as reported above. Two, the total number of in this Folio are 36 including the uncatalogued "Tr and Cressida". Three, the Folio has been edi Blount I Smithweeke, and W. Afpley, while Mr hopadhyay reports the editors' names as John H minge and Henry Condall. The Roorkee Shakesp Folio ends with the play."The Tragedy of Cym (p. 993). The bottom half of the page has the fo description "Printed at the charges of W, Fag Blount, I Smithweeke, and W.Afpley, 1623."

er distinctive features of the Folio as reported by ncipal C J Veale in his letter quoted earlier are ows.

oilus and Cressida", though in the body of the opens the section of tragedies, is not mentioned the table to contents, and the play is unpaged on ond and third, which bear the number 79 and 80."

ie last page of 'Romeo and Juliet' is in all copies ered 79, an obvious misprint for 77; the first leaf oilus' is unpaged: but the second and third pages oilus' are numbered 79 and 80."

nly fourteen are in quite perfect state, that is, with ortrait printed (not inlaid) on the title page, and leaf facing it, with all the pages succeeding intact ninjured." The College copy is not inlaid.

ie size of page of largest copy mentioned in Sir y Lee's book, is $13\frac{3}{8}$ inches by $8\frac{3}{4}$ inches.

"The college copy measures $15\frac{1}{4}$ inches by $9\frac{1}{2}$ and shows that it never required guilotining when rebound; in fact the college copy appears scarcely to have been opened, or made any use of, the pages being so perfect in edges and letterpress."[7]

The Folio is a rarity. Five years back a copy of the First Folio had been sold for $ 640,000. It is estimated that the Roorkee Folio would be worth more than $ 10,00,000.

References

1. Thomason Civil Engineering College Calender, 1928. p 18-9.
2. A.G.Noorani : An American in India – 1853. Span 23 (7) ;July 1982: p. 17
3. C.J. Veale. A Shakespeare First Folio. The Pioneer, 7 June, 1923.
4. Ibid
5. Ibid
6. Nilanjan Mukhopadhyay. Million-Pound Shakespeare Folio Found. Sunday Mail. June 11-17, 1989.
7. Veale, C.J.. A Shakespeare First Folio. The Pioneer, June 7, 1923.

Academic Grooming for Social Justice

(Contd. from page 3)

da's action of granting scholarship to B.R. Ambedotherwise even B.R. Ambedkar could not have loped. Similarly, for the scheduled community we provide about 200 undergraduates, about 100 graduates and about 30 Ph.D. scholars, with larships, and they be drawn from all over the itry. Both the department concerned and the tre for Developing Academic/Learning skills ld jointly take care of them in an organised manner with relevant programmes. We must realise that emic skills can be cultivated and sharpened as erous universities abroad are doing.

lake arrangements for their grooming in academic s in each department by recruiting senior and exenced faculty members who could, in addition to hing, enrol Ph.D. students in their subjects from own community. Limiting affirmative action or rvation to the starting position of lecturer (s) shall only be the wrong end but also most of them from ide the academic culture of a renowned university likely to be operatively an utter failure. When voices sounds are constantly raised in classrooms where cream of secondary education comes and cut off nt of admission is around 85% of marks, an ill ipped teacher is likely to become a psychological to end up ultimately in an asylum. If so, it shall nore of social injustice and crime than the expected al justice if we induct academically inferior teachers brilliant students. Unidirectional approach of limit-SC/ST candidates only to lecturer's post is not likely ive dividends.

ernative to Reservation

What affirmative action programmes could be ised as alternative to quota-based reservation?

i) First take quality hens to get better quality of eggs. Recruit senior faculty members, by creating supernumerary posts, if necessary, and they be specially required to groom students from scheduled communities in academic/learning skills. Develop a Centre for Developing Learning and Academic Skills in major universities. Ask for funds for hostels, salaries and scholarships. The Governing Body of this Centre be headed by the Vice-Chancellor. Ministry of Social Welfare should be willing to help for these activities.

ii) Do it on the same lines as North American universities do for outsiders by launching prehigher study courses for masters, Ph.D., etc. Have a special training programme on Academic/Learning Skills. Advertise and select on scholarships candidates from all over India, for grooming talents of this community. Do not induct underprepared stuff as teachers, in a routine manner, because we must avoid further deterioration in academic standards.

We have to put in required scholarly human efforts to groom academically the brethren from scheduled community. Here mere words and/or mechanical devices alone shall not work. One wishes that words were really equal to deeds so that we could achieve the objectives in academic life merely by a mechanical device of reservation without undergoing pains and challenges of academic grooming. Unsuccessful precedents or even generality of misapplication should not be allowed to gather the force of precedents and/or generality of application. It shall not be academic to permit such fallacies to prevail.

Student Participation in Management

Hon'ble Shri Madhukarrao Chaudhari, Speaker of the Maharashtra State Legislative Assembly delivered the Convocation Address at the Seventh annual convocation of the Amravati University. He said, "Students should be involved in deciding the education policy, preparation of syllabi and the management of educational institutions and universities . It would be better if the areas of games and cultural activities were entirely handed over to the students for management. It is learnt by experience that student participation in management improves the quality of the institutions. It does not cause it to deteriorate as is generally feared". Excerpts

CONVOCATION

In the Ashram system of education in ancient India, students used to live & learn in the Ashram in the close contact of their teacher till they attained the age of twenty five. They received in the Ashram physical , spiritual and religious knowledge necessary in life. They also imbibed the values of discipline, self-reliance, selfless service and collective living. It was only after ensuring that they had acquired the necessary ability to attain the four goals in life – dharma, artha, kama and moksha that they were sent away. On the occasion of the send off, the teacher blessed them and gave a message. He asked them to be truthful and virtuous, and to keep their minds open to knowledge.

This ancient Ashram system of education was truly the best in the world. It is now replaced by the modern system of education. The modern system is hierarchic. Students belonging to different stages have no contact with each other. They either stay at home or in hostels, and thus lose close contact with the teachers. The teachers are also interested only in giving lectures. The old ideals of living together, eating together, undertaking enterprises together, of aspiring for excellence and of avoiding hatred are all gone.

Formerly the number of students used to be small, because education was the privilege of the few. In free India, education is a fundamental right of every individual. It is open to all, and hence, the number of students is also increasing. A time may come when the entire country becomes educated.

You are now on the verge of entering into the world. The world will be full of challenges. There will be possibilities of success as well as failure, of joy as well as sorrow. You will get rights, but, at the same time, be expected to carry out responsibilities. The question is whether your education has prepared you for all this, whether it has given yo
necessary strength and the visio

In the mind of almost everyo
you, there must be a thought a
what should happen next as y
have finished your education. M
of you must be expecting to get jo
To consider education as a mean
getting a job is not exactly wrong, b
when getting a job itself become
goal, various malpractices creep i
These malpractices increase th
sense of frustration in general, an
in those who fail to get jobs in pa
ticular. The thing to remember
that not even in developed natio
can more than twenty five percent
the educated get jobs. Consequen
ly, it becomes necessary to fin
means of livelihood other than job
But most of the modern educate
individuals are usually not prepare
to accept this. A really qualified an
resourceful person can live a life o
dignity even today. What is e
pected of our education system
that it should produce su
qualified and resourceful perso

In pre-Independence days, it wa
the youth who led the society. Til
Gokhale, Agarkar, Mahatm
Gandhi, Nehru, Subhash Chand
Bose dedicated their lives to the se
vice and freedom of the nation wh
they were just about twenty-fi
years old. Dr. Ambedkar, th
leader of the downtrodden al
began his work when he was ve
young. The young people of tod
should remember these exampl
and pledge themselves to self-up
as well as the uplift of the natio

If this is to become possible, i
necessary first to understand th
problems of personal as well as s
cial life. A well-coordinated eff
will then have to be made to so
these problems. The responsib
of every individual in this respe
like that of a lamp which is pl
on the threshold of a house a
which therefore, illuminates

ne inside of the house but also orld outside.

ice this is accepted, the purof life becomes very clear; selfst and public interest begin to less antithetical, and more lementary.

hile deciding the direction of own life, it is helpful to remem- few things. The first is that this ion has to be one's own, and the onsibility of putting it into prac- s also one's own; though help advice may be sought from rs. It is unfortunate that physi- ibour has lost its dignity in our al life. The great western ker, John Ruskin, said that th was generated by labour. ay, we want wealth but are un- ng to put in the necessary ur. We want to live on other's ur. If modern system of educa- fosters this tendency, it will ve to be a curse to the society.

Another thing to remember is the tity of public property. Public perty and facilities are created the benefit of the people, and it e duty of every citizen to see that e are kept intact. What is seen ay is that there is very scant pect for public property in our ety. If only the illiterate and the nature had shown it, there could e been some excuse. But even grown-ups and the educated are n indulging in these anti-social, tructive activities. The society, result, incurs huge losses and is uired to raise money again by reasing taxes and rent. Where is wisdom in destroying the com- ts and facilities which are meant our own selves, and for which we ne have to pay?

Drug addictions becoming fast- valent is another point to con- er. Drugs destroy an individual, h physically and mentally. Such individual, instead of becoming the strength of the society becomes a liability. If the younger generation in whom is centered the physical, emotional and intellectual strength of the nation becomes a prey to drug addiction, what future will be there for such a country? Our ancestors named India as Bharat. 'Bha' means brilliance, potency, and 'Rat' means one Inlent on, one delighting in. 'Bharat' is therefore a nation of the people who delight in being bright and strong. If our younger generation is destroyed by drugs, who will continue this glorious tradition of ancient India ?

India discovered directive principles of nation building during its freedom struggle. Indian constitution has promised equal rights and justice to every citizen. It also, at the same time emphasises that India should remain a single, sovereign, social state. Today, we have become more conscious of our own rights and less so of the safety sovereignty of the nation. If a nation is abandoned by its citizens there can be no hope of its survival. We have, therefore, to be determined and vigilant, and to work with unflagging zeal towards the building of our nation.

It will be good to have our objectives clear before us while we do so. I will state them here briefly.

Freedom is for all. Democracy is the way of our life. Every person above eighteen years of age, to whatever caste, creed, religion or sex he or she might belong, has one vote which has the power to decide not only as to who should rule, but also in which direction the country should go. It is, therefore, very necessary to enlighten the voters, specially the young voters, about their responsibility. It should be impressed on them that democracy is not merely a form of government; that is also a way of life based on equality, tolerance and collective verdict.

Another principle that we have adopted is of socialism. It is recorded that India was rich and powerful country in ancient times. But all this wealth and power remained concentrated in the hands of a few. Some enjoyed exclusive right to knowledge. We have to change this picture. We have to cut across the barriers of castes. For this young people will have to come forward and work with devotion & determination. These days, idealism, selfless service, sacrifice are looked down upon as old-fashioned. But if these are discarded, is there any other way of building a nation ? Whatever good is there in the world today is there because these values are still preserved in the world. The day they will disappear, the world will go back to the primitive state where might alone is right.

It is said that poverty gives rise to crime and immorality. But this is not wholly true. Excessive wealth also corrupts the human mind. The nation will, therefore, have to adopt the middle way. The intellectuals will have to come forward, meditate, plan and organise. India has natural resources as well as a large population. These two together can solve all the problems before us.

India has been the source of inspiration for many freedom movements in the world. India set an ideal before the world by its pursuit of truth and non-violence. The countries which tried to bring socialism by using force are experiencing a change. India's example has thus become all the more relevant. We have to realise that the future of the world largely depends on the success of our endeavour.

Another important principle accepted by the constitution is of secularism. This country includes a variety of castes, creeds, races, religions, languages & modes of variety of castes, creeds, races, religions, languages & modes of dressing. In a way it represents the whole world in microcosm. If this is to be kept intact, it is necessary to follow certain principles. Secularism is one such principle. It entails on us that whatever religion we follow in personal life, we pay equal respect to all religions in social life and that the government be secular in administration. It is unfortunate that on many occasions, personal beliefs in religion tend to disrupt our social and administrative fabric. We have to guard ourselves and our nation against such happenings.

Our saints and teachers taught us to consider the whole world as a family. Physically speaking, modern science has made this possible to some extent. But the development of human mind has not kept pace with the development of physical sciences. Modern science is therefore proving more as a curse than as a blessing. Moreover, science does not have the capacity to change the mind, to make it broader and more generous. We will have therefore, to see that science and human mind develop simultaneously that the mind does not lose its supreme position.

We will have also to remember that we cannot remain indifferent to, or unaffected by the happenings in the world. It was our isolation from the rest of the world that had led to the loss of our freedom. We should never forget that lesson.

I have discussed with you a number of questions. If we want to solve them, we will have to adopt variety of measures. To involve young people in the decision making process, to allow them to shoulder responsibilities could be one of them. Students should be involved in deciding the education policy, preparation of syllabi and the management of educational institutions and universities.It would be better if the areas of games and cultural activities were entirely handed over to the students for management. It is learnt by experience that student participation in management improves the quality of the institutions. It does not cause it to deteriorate as is generally feared".

It is also necessary that the teachers and persons associated with the management of educational institutions do some introspection. They should realise their responsibility and be willing to carry it out. The emphasis should be more on constructive plans and not on mere analysis or discussion.

Before I conclude, I will set before you the examples of Japan and Israel. Japan was able to overcome the trauma of the atomic explosion because the Japanese had a high sense of patriotism and willingness to work with in defatiable zeal. The tiny country of Israel has proved to be more than a match for a host of Arab nations for the same reason.

India is more fortunate than these countries in many respects. God has blessed it with clear skies, fertile land, adequate rainfall, abundant natural resources, a wide sea-coast, a tradition of great men, a five-thousand-year-old history and a population of eighty-five crores. If anything is needed in addition to these, it is the determination to work for building a glorious nation.

May the vitality, the sense of Individuality and self respect be enkindled within you ! And may you, at the same time respect others and resolve to bring glory to your nation !

ASSOCIATION OF INDIAN UNIVERSITIES

AIU House, 16 Kotla Marg, New Delhi 110002

Applications on prescribed form available from this Office on payment of Rs. 2/- (Rs. 5 if required by mail) are invited for the following posts in the AIU:

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Working experience of computer accounting

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SC/ST candidate would be given preference. The posts carry usual allowances generally at the Central Govt. rates. The Association reserves the right not to fill up the vacancies advertised if the circumstances so warrant. Canvassing in any form by or on behalf of a candidate will be a disqualification.

The last date for receipt of applications is May 6, 1991. Applications received after the last date or without complete information may not be entertained.

Integrated Approach to Literacy

i Mohan Dharia, Deputy man, Planning Commission, lined the need for an in- ed approach to literacy, as it not be viewed in isolation its social context. In his ad- at the first meeting of stituted council of the Nation- eracy Mission Authority held ly in New Delhi Shri Dharia at adult literacy must go hand d with human liberation in the est sense — with health care, re-distribution and popular ipation of the people in the ss of development.

eping this necessity for an in- ted approach, Shri Dharia the Planning Commission had ified the main thrust areas of Eighth Plan in the social in- ucture sector. Every person in ge-group of 15 to 35 years d be literate by the year 1995 people's movement should be ted for this purpose with in- ions and colleges, voluntary or- sations and other government organisations g the lead. "I do not want it to Government programme, sup- ed by voluntary agencies. It ld be the other way around. It ld be a people's movement for ication of illiteracy, supported overnment", he added.

hri Dharia said instead of clos- niversities and colleges for one there could be a longer vaca- during which students in mas- numbers could join the literacy . He urged for preparing a plan in this regard after involving Vice-Chancellors, Educational Institutions, Voluntary agencies, Chambers of Industry and related bodies. The programme will not lag behind for lack of resources, Shri Dharia said. He assured the meeting that despite the financial crunch necessary funds will be provided.

He further said that "to make eradication of illiteracy a mass movement, we need the physical and emotional involvement of any one and everyone who feels for the poor and illiterate and who can contribute to the mission with a truly missionary zeal".

Shri Dharia suggested that we should produce innovative literacy kits, relating the process of learning to the day-to-day needs of learners. With total community participation, the per learner cost could also be brought down. At the same time, in every State, industrial and business houses could be mobilised to sponsor the production of literacy kits instead of depending totally on budgetary support, he added.

The Minister for Human Resource Development, Shri Raj Mangal Pande, who presided, suggested legislation to make elementary education of 6-14 years old compulsory . He however regretted that despite all efforts there were about 45 crore illiterates in the country. Serious consideration should be given to tackling the problem immediately, he said. Describing literacy as freedom of the mind the Minister said that it was our moral duty to remove the blot of illiteracy from this country. He said he was in favour of some compulsion in respect of elementary education if other measures to eradicate illiteracy did not yield desired results.

Shri Pande pointed out that in some areas of the country the problems of illiteracy were being successfully tackled. However, in other parts the measures had not been so successful. Observing that it was the illiterate who were exploited most the Minister wanted all out efforts to remove this problem soon.

Shri Pande noted that over the years no consistent national education policy had been evolved in the country. Referring to the National Policy on Education, 1986, he appreciated the Navodaya Vidyalayas and Operation Blackborad. He emphasized the need for making available quality education to the poor children in the rural areas.

CAMPUS NEWS

International Seminar on Environmental Protection

A 3-day UGC sponsored International Seminar on "Environmental Protection: Agenda for Interdisciplinary Approach" was organised by the Department of Law, Kurukshetra University on March 23 to 25, 1991. The Hon'ble Mr. Justice N.M. Kasliwal, Judge, Supreme Court of India inaugurated the seminar. The Seminar was divided in 6 sessions and was attended by distinguished jurists, professionals, lawyers and academicians as well as volunteers from different disciplines.

In his inaugural address Justice Kasliwal said that environment had been threatened by industrialisation. If the situation was not redeemed well in time it would become too late for the mankind to survive. Mr Justice Kasliwal disclosed that the Supreme Court had recently held that pollution-free water and air for full enjoyment of life of a person are now a fundamental right as a part of Article 21 of the Constitution. Accordingly, any person can make a petition direct to the Supreme Court for the enforcement of this right.

Mr Justice Kasliwal pointed out that "if water is polluted, air is obnoxious, and food stuffs are poisoned and the survival of humanity itself is at stake, what would be the use of economic prosperity?"

Leter presenting the paper titled "Depletion of ozone layer — a global environmental issue," Dr. S. Musharraf Ali of Aligarh Muslim University observed that mankind has to realise the problem of environmental protection on a priority basis if it has to preserve itself. He pleaded that the problem of pollution can be solved by collective wisdom and action.

Dr R.A. Malviya from Banaras Hindu University in his paper "International legal measures for the protection and preservation of the ozone layer" observed that the developing countries were threatened by the developed countries in the field of environment. He suggested that some criteria must be formulated for international funding of the mechanism to protect the environment.

Professor N.R. Madhava Menon, Director of National Law School of India University, Bangalore suggested a draft syllabus for LL.B. course on Environmental Law which was later unanimously adopted by the seminar. He listed the following objectives of the Course :

(1) To impart environmental awareness and to develop capacity to appreciate environmental issues in diverse situations;

(2) To be able to understand law in the context of Development needs and alternative models of Development;

(3) To be able to look at law in the context of social policies and in relation to developments in science and technology;

(4) To inform oneself of the legal responses to pollution control and environmental management;

(5) To develop skills of legal research and advocacy on environmental litigation; and

(6) To evolve capacities for seeking new tools and strategies in law for the protection of environment nationally and internationally as part of common heritage of mankind.

The valedictory session was addressed by Professor R.K. Misra of Banaras Hindu University. He pointed out that the challenges of environment degradation and pollution had to be met by devising new concepts and principles of jurisprudence.

The following recommendations were made after datailed deliberations :

(1) The role of law in protecting of environment and maintaining ecological balance is to be made a part of the syllabus in the Law Schools.

(2) To evaluate the existing laws and the working of the legal system is to be considered a professional obligation of the law teachers. Attempts have also to be made to examine the concepts and doctrines of law in order to make law an effective instrument of maintaining the ecological equilibrium.

(3) As the concept of Development is of inter-disciplinary nat
the question of justice and ba
human needs cannot be ove
looked while discussing th
strategies for the protection
environment.

(4) The limits of law in protectin
the environment have to b
realised and it is to be ackno
ledge that in this field law has
work in coordination with oth
instruments of social control

(5) Adoption of syllabus on En
vironmental Protection Law fo
LL.B. and diploma courses.

(6) Adoption of villages by the La
Faculties and Departments
the Universities and Colleges
make them pollution free an
pollution conscious.

(7) The formulation of a long ter
international policy on enviro
ment was suggested.

(8) Effective implementation
policy to be evolved by involvin
voluntary organisations, sta
machinery besides peop
participation.

(9) Factories and manufacturin
units should not be grante
licences unless a guarantee
keep pollution free enviro
ment, is given and in the eve
of its violation, crimina
liability should be imposed.

(10) Developing countries like Ind
have to be cautious against
move of developed countries
use pollution as the pretext
impose unequal terms on
developing countries. In
context India has to be speci
vigilant in Brazil in 1992 aga
such moves.

Publication Polic
Universit

A meeting of Heads of So
Science Departments of Ban
Bharathidasan, Hyderabad,

Madras, Madurai Kamaraj, ore, Mysore, Nagarjuna, ture (Madurai) and Os- Jniversities, was recently the Madras Institute of ment Studies to discuss ion policy in South Indian sities and to evolve es for adoption by others. tailed deliberations the following suggestions were made.

vas noted that there were e viable "models" of publi- on policy in South Indian iversities for emulation by ers:

The Karnataka Model pioneered by Mysore University and followed by Bangalore, Karnataka and Mangalore Universities with 'PRASARANGA', the publication department.

The "Osmania" (post merger period) model where textbook publication has been taken over by "Telugu Academy" and other research publication is handled by the university, and

The Tamil Nadu Agricultural University Model where research and popular publications are encouraged and the research findings are annually abstracted and sent to all other agricultural universities.

e meeting took note of the fact he oldest university in South Madras, as well as many other sities do not have any publica- olicy of their own.

is desirable that important ndings in doctoral research be ublished either before or after ibmission so that the scholarly ommunity would have oppor- inity to comment on them and consesus might emerge.

The provisions of the universities to confer doctoral degrees for theses approved with the condition that they are not fit for publication should be reviewed because of its contradictory nature.

D. The starting of an Inter-Disciplinary Journal for promotion of Social Science Research in South India was recommended for consideration by the Indian Council of Social Science Research.

E. A preponderant majority of students answering questions in Regional Languages in University Examinations pointed to the urgent need for continuation of production and publication of textbooks in regional languages by the universities.

F. The double responsibility of each member of the academic community (i) to pursue research, and (ii) to communicate and react with other members of peer group was emphasised.

G. The responsibility of the Universities Publication Sections to employ professional people for editing, referencing and indexing was stressed.

H. The need for improving facilities for research in Social Science by universities and to exert pressure on the academic community to actively pursue research was advanced.

I. Periodical academic audit of teachers was affirmed.

J. The policy of Osmania University that the content of publications impinging on excitable issues, and of the Agricultural University that publications relating to immediate sensitive policy matters, require prior approval by the University was approved.

K. For promotion of publications, an incentive structure through grant of special leave, research grants, honorarium for textbook writing as well as academic recognition for writing in regional languages was suggested.

L. Taking into consideration the escalating cost of publications and the difficulties in marketing, arrangement with commercial publishers for undertaking costly distributive responsibilities was endorsed.

M. As the price of the average important book was getting beyond the reach of individual teachers, it was suggested that the libraries should purchase more than one copy of such publications in order to promote cultivation of the reading habit and access to research reference material.

Manuscript Library for Calcutta University

Calcutta University is planning to build up a manuscript library especially with a view to restoring the precious manuscripts of the mediaeval ages. According to Dr Bharati Ray, the Pro-Vice-Chancellor (academic affairs) of the university, the proposed library will make proper preservation of a varied and rich collection of about 20,000 manuscripts in different languages including Bengali, Sanskrit and Tibetan. Steps are also being taken to facilitate the preservation of manuscripts of other languages namely, Arabic, Assamese, Oriya, Persian Devanagri, Newary and proto Bengali in the library.

It is interesting to note that the materials used for these manuscripts are handmade from ordinary paper, palm and palmyra leaves and barks of different trees. These century old manuscripts have become brittle since proper maintenance has not been carried out at the University Central library, Asutosh Museum, and the Bengali Manuscript library.

Dr Tushar Mahapatra, Secretary of Bengali manuscript and publication, said that private collections of manuscripts of Sanat Mukherjee, Haridas Palit and Netaji Prasanna Sinha, would be preserved and displayed in the library.

One of the notable treasures of these collections includes note books and papers of Dr Sarat Chandra Das, the erudite Tibetan scholar who spent more than 12 years in Tibet and was popularly known as Kanchan Lama. This collection also comprises a good number of xylographs and manuscripts presented to the University by the Chinese.

Another highlight of these collections is a large number of illustrated manuscripts in Sanskrit, Again, the work on Pancaraksa copied in Newari language in 1150 A.D. deserves special mention for its excellent calligraph and illustration. Besides, wooden covers of the mediaeval Bengali texts, preserved in the Asutosh Museum are also worth mention.

The Bengali manuscript library set up in 1919, is enriched every year with the addition of further manuscripts from private collections. Out of about 8,000 Bengali manuscripts, more than 1,100 manuscripts are available in the printed descriptive catalogue in three volumes published in 1926,28 and 30 respectively. And short descriptions of 6,927 titles has been furnished in the printed catalogue published in two volumes in 1940 and 1964.

Courses in Foundry and Forge Technology

The National Institute of Foundry and Forge Technology (NIFFT) Ranchi was established by the Government of India in collaboration with UNDP-UNESCO in 1966 with the objectives to organise teaching and training programmes, conduct research and development in frontier areas pertaining to foundry and forge technology and provide technological guidance and documentation services to foundry, forge and other related engineering Industries.

NIFFT now offers (1) Post Graduate Degree Course in Fundry Forge Technology, (2) Advanced Diploma Course in Foundry/Forge Technology of 18 months duration; (3) A series of short term Refresher Courses in specialised areas;and (4) Unit-based programmes of short duration on request from the industries or Insitutions. Institute also conducts industrial research in foundry, forge technology and related fields leading to award of doctoral degree.

NIFFT offers consultancy services in the form of problem-shooting, preparation of projects reports, selection and evaluation of equipment and machinery and testing of raw materials, castings, forgings and other components. Besides this, it also provides documentation and information retrieval services in Fundry/Forge Technology and allied fields, through its well equipped Library and Documentation Centre.

The institute has well-equipped workshops for producing castings, forgings, pattern and dies; laboratories such as sand testing, mechanical and non-destructive testing, scanning electron microscopy, metallography, instrumental analysis and pollution control and a Computer Centre having a Graphics work station for CAD, interfaced to computer-aided machining, a Mini Computer and a number of micro-computers.

Further details can be obtained from the Chairman, Academic Affairs, National Institute of Foundry and Forge Technology, Ranchi-834003.

National Institute of Adult Education

The Government of India has up the National Institute of Adult Education (NIAE). It will act as the national level resource centre for adult education. The President of the Institute will be the Union Minister incharge of Education. Other members include senior Union and State officials, Chairman, UGC, Directors of NCERT and NIEPA, Directors of State Resource Centres and eminent persons from areas of education, literacy, culture, voluntary action, media and women development. The Institute which will have its headquarters in New Delhi will also have a Executive Committee to administer its affairs under the Chairmanship of an eminent adult educationist to be appointed by the Government. The first Chairman will be the Secretary, Department of Education.

The NIAE will have full functional autonomy. It will have an integrated relationship with the National Literacy Mission Authority under whose overall guidance it will function. The Institute will be fully financed by the Government of India. Funds will be provided to it as grant-in-aid. It will have the power to receive funds from other sources also. It has been registered as a society under the Society's Registration Act, 1860.

The objects and functions of the NIAE include provision of academic and technical resource support for implementation of NLM and adult education programmes, organisation of training and academic courses and improvement of content and process of adult education programmes. It will also prepare media material and utilise traditional and folk media. Besides undertaking research, evaluation monitoring, it will coordinate various institutions and agen-for promotion of its objectives.

the context of the continuing lenge of illiteracy and mass cation the need has been felt to ngthen the capability for human urce development, to harness er the means of communication, to secure the involvement of ac-ts engaged in development and owerment of women and other rived sections of society. The vernment has therefore felt it essary to establish at the national l such an autonomous institu-n.

The first meeting of the general ly of the NIAE was recently held New Delhi under the Chairman-p of the Minister for Human source Development, Shri Raj ngal Pande. Shri Pande em-asised that illiteracy was closely ked with the socio- economic cul-al environment of the people and uld never be eradicated unless ere was a qualitative change in ch environment. No literacy ogramme could succeed unless viewed the problems of illiterates th compassion, sensitivity and dication, he said.

The Chairman of the Executive ommittee, NIAE and Education cretary, Shri Anil Bordia told the eeting that adult education could ot be confined to literacy alone but d to be viewed in the context of e long learning and continuing lucation. He emphasised the need r developing new capabilities in ew of complexities and challenges communication. He called for aking the NIAE a centre of excel-ence and ensuring high quality valuation, research and academic ork.

National Seminar on Physical Education & Sports

A National Seminar on Physical Education and Sports was recently organised by the Department of Physical Education, Kurukshetra University. Sponsored by the UGC, the Seminar was inaugurated by Professor Ajmer Singh, Dean, Lakshmibai National College of Physical Education, Gwalior. In his inaugural speech Prof. Singh emphasized the need for organising seminars on physical education. He pleaded for the uniformity of duration of courses in physical education. He also emphasized the need for standardization of the quality of the products passing out from the portals of physical education institutions. He was of the opinion that all people involved in physical education and sports like coaches, administrators, organisers should meet and evolve a process of promotion of physical education, games and sports.

Prof. S. Srivatsan, who was the keynote speaker, pointed out that considering the kaleidoscopic plethora of physical education and sports activities and with the training on scientific basis in physical education, there was a need for diversification of courses and revolutionization of the professional preparation for future teachers in physical education and sports. In this regard, he pointed out four areas i.e. Bio-mechanics, Exercise Physiology, Sports Medicine, and Sports Psychology as areas to be comprehensively included in the preparation.

The Seminar focussed on various sub-themes such as Physical fitness and sports performance; Application of measurements and Evaluation techniques in Physical Education and Sports; Psychological Fitness for sports success; Yoga, Health and Relaxation; Women and Sports; and Physical Education mass media for promotion of national integration.

Over fifty delegates from different Physical education institutions in the country participated in the deliberations of the seminar.

Patel Awards for Books in Hindi

The Government of India is reported to have instituted the Sardar Vallabhbhai Patel Award for standard books either original or translated in Hindi. The purpose of the award is to encourage the production of standard literature in Hindi in the fields of public administration and management sciences, including economic development, economic administration and development administration.

Under the scheme, three cash awards of Rs 3000 each will be given for original books and another for tanslations into Hindi of standard original books written in languages other than Hindi.

News from Agril. universities

Pant Varsity Plans More KVKs

The G. B. Pant University of Agriculture and Technology proposes to establish 10 New Krishi Vigyan Kendras (KVK) to boost its adaptive research and farmers' training programmes.

According to Prof. H. G. Singh, Vice-Chancellor the new centres will come up at Pithoragarh, Bareilly, Pilibhit, Badaun, Shahjahanpur, Rampur, Bijnor, Bulandshahr, Muzaffarnagar and Saharanpur with cent per cent financial assistance of ICAR to the tune of Rs 1.25 crore per centre. With this, the total number of KVK allocated to Pantnagar will be 11 – highest amongst the agricultural universities in the country.

These KVKs will conduct farm trials at farmers' fields for local adaptation of new technology, local seed multiplication programme and training of farmers, farm women and rural youth in various disciplines such as agriculture, horticulture, animal husbandry, fish culture, poultry, home science, etc.

News from UGC

Countrywide Classroom Programme

Between 9th May to 14th May, 1991 the following schedule of telecast on higher education through INSAT-1D under the asupices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

1st Transmission

1.00 p.m. to 2.00 p.m.

9.5.91

"Camera Shutter Speed"

"Lore in Tulu"

"Towards Better Spoken English - II: Vowel Sounds"

10.5.91

"Why Statistics"

"Earth Day Special – Without Boraders -II"

11.5.91

"The Human Comedy - II"

"Naad Sagar Manthan - II"

"Venturing Out With Photography"

12.5.91

No Telecast

13.5.91

"History of Inventions - I"

"Entrepreneur and His Enterprise - VI"

"Sustainable Agriculture by Daring Farmers - II"

14.5.91

"Journalism As a Profession – A Practitioner's View"

"Hour USA - The Health Century : The Fight Against Infections Diseases - II"

2nd Transmission

4.00 p.m. to 5.00 p.m.

9.5.91

"Latched Registers Data Communication System"

"Manipur Assembly Election - 1990 - Profile of Rangpo Constituency"

"A Writer and His Work - II"

10.5.91

"Kodaikanal Observatory"

"Psychiatric Disorders – 4 Depression"

"Orchid - The Royal Plant"

11.5.91

"Understanding Cinema – XII : How Films Are Made – I"

"Keeping the City Moving : New York City Transportation"

12.5.91

No Telecast

13.5.91

"Zeeman Splitting"

"Creative Career Planning"

"Agriculture and Biotechnology - I"

14.5.91

"Planning Engineering and Technology Education : A JNTU Approach"

"Innovation : Epilepsy - Taming the Brainstorm"

News from Abroad

International Technology Institute

The United Nations University has unveiled plans to set up an international technology institute to provide advanced research and development in software engineering for developing countries.

The institute will be established on the Portuguese island colony of Macau near Hong Kong, off the southern coast of China, and is due to open later this year.

An endowment fund of $20 million, half of which has been supplied by Macau and the rest split equally between China and Portugal, will provide its main operating income. In addition, Macau has promised to obtain another $10 million for the institute by 1995.

"We are trying to help developing countries design their own software," said Dr Walter Shearer, who was involved in the feasibility study for the period. "We are not talking about ordinary software, like spread-shets; we're talking about advanced software." This includes knowledge-base expert systems, computer aided design and manufacturing, and decision and project management systems.

Software has great potential for veloping countries in almost ery field, from agriculture to dicine, and from education to ource and financial management, Dr Shearer said. "With a od computer program, great ps can be taken, especially in cru- l areas like health." Moreover, ftware "is the domain of young inds and if there is one thing veloping countries have in abun- nce, it is young minds," he added.

Developing countries' main oblem is they lack the critical core expertise necessary to exploit ch systems.

Also, they often need very ecialised kinds of programs, with ommands in the local language, for xample, which are not commercial- viable enough for development by software company, he said.

As well as developing such sys- ems – sometimes in the shape of a pecific project for an individual ountry, the institute will focus on uilding up each country's local oftware expertise. "We want to rain the trainers so there will be a ultiplier effect," Dr Shearer said.

This training is also expected to lleviate developing countries' dearth of managerial skills. "A good computer programmer is often a very good manager," he added.

The institute will be staffed by a core of 30 to 45 resident professionals. Their numbers will be augmented, however, by "a continuous flow" of academics and experts who will be attached to the institute for a specific project of period of time.

Two hundred to 300 people are expected to receive training in advanced software techniques in each year.

The software technology institute is the fifth of the United Nations University's international centres for research and training located around the world.

The others focus on development economics, advanced studies, natural resources in Africa, biotechnology and new technologies.

Professor Heitor Gurgulino de Souza, rector of the 15-year-old university, said that like its founder, the United Nations, the university was concerned with issues of human survival and welfare. "We bring those issues together and provide the intellectual input," he said.

ADB Investment in Education

The Asian Development Bank (ADB) intends to increase aid to education as part of its efforts to enchance the quality of life directly and to promote growth in the long term.

This new emphasis is discussed extensively in the bank's annual report, presented at the annual meeting held recently at Vancouver.

There is often a high correlation between education and economic growth and labour productivity. Research indicates that, in almost all areas of the world, an increase in the average level of schooling leads to an increase in gross domestic product. The report says this relationship is clear in many of the bank's developing member countries, where an estimated 659 million, or 75 per cent, of the world's 882 million illiterates live.

Although quantitative expansion of educational opportunities in the Asia-Pacific region has been impressive during the past three decades, the report says this has been often done at the expense of quality and efficiency.

The report says that while the proportion of illiterates of the population in the region is decreasing, their asboulute number is increasing and is projected to reach 693 million by the year 2000.

"For the region as a whole, about 19 out of every 100 children who start primary school drop out before completing it, and in South and West Asia the dropout rate rises to 32 out of every 100, indicating extensive inefficiencies. Many of these dropouts will revert to illiteracy," the report says.

These figures conceal gender inequities, especially in South Asia, where the adult female literacy rate is a low 26 per cent, compared to the region's 68 per cent, the report says.

It likewise noted that while 83 per cent of girls are enrolled in primary schools across the region, the figure is 44 per cent in South and West Asia.

"The ongoing transition of labour markets toward industrialisation and the increased use of technology based modes of production require a work force with an advanced educational background, broad and flexible qualifications, and the preparedness for job changes," the report says.

To address these problems in the next decade, the report says, the bank will encourage and assist in structural reforms to link education more closely to labour and community life, to make it more cost effective, particularly the modes of technical and vocational education, and to ensure global opportunities for all.

"Investment in education also shows high rates of social and individual return, more so than investment in most forms of physical infrastructure," the report says.

"Education is among the necessary conditions for the organisation of society and the welfare and development of humankind. There can be no development without education," it says.

G.B. PANT UNIV. OF AGRI. & TECH.

PANTNAGAR - 263 145

Competitive Entrance Examination 1991-92 Notification

The date of Competitive Entrance Examination for admission to Under-graduate and Post-graduate programmes of this University for the academic year 1991-92 as published in this Newspaper on 18.3.91 & 25.3.91 is hereby shifted from 26th May, 1991 on account of elections to the Lok Sabha and Uttar Pradesh Vidhan Sabha, and shall now be held on Sunday, the 23rd June 1991.

The last date of receipt of completed application forms is accordingly extended to **15th May, 1991 and with late fee upto 30th May 1991.**

O.S. Misra

REGISTRAR & COORDINATOR (ADMISSIONS)

AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on Higher Education. Among the topics prominently represented are Educational Sociology, Educational Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Education and Country Studies . Developing fields of Adult Education, Continuing Education and Distance Education and Educational Technology are also well stocked. The library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of Higher Education. Files of Annual Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to the AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

HUMANITIES

Philosophy

1. Banerjee, G S. **Changing socio-political world of the Adis of Arunachal till early 1970's: A study in historical retrospect.** NBU.

2. Mandal, Suvra. **Health policy ethics and human values.** NBU.

3. Sarin, Madhu. **Hegel and Marx : A reassessment.** Delhi.

Fine Arts

Drawing & Painting

1. Mali, Vishnuprakash. **Mewer kee moortikala.** Sukhadia. Prof Suresh Sharma, Department of Fine Arts, Mohanlal Sukhadia University, Udaipur.

Music

1. Nigam, Rekha. **Sitar kee utpatti ka vistrit vivechan tatha sitar ke baj ka vikas kram, 18 vin shatabadi se vartman kal ke sandarbh mein.** Indira Kala. Dr R S Jaiswal, Lecturer, Department of Musicology, Indira Kala Sangit Vishwavidyalaya, Khairagarh.

Language & Literature

English

1. Jalihal, Jayamangala Adiveppa. **William Golding : A study of themes and techniques in his novels.** Karnatak. Dr Sarojini B Shastri, Prof, Department of English, Karnatak University, Dharwad.

2. Jayalakshmi, Vempala. **Culture and anarchy in the novels of Chinua Achebe.** Andhra.

3. Jose, C P. **William Blake's interpretation of the Bible through his poems and paintings.** Calicut. Dr S Kandaswami, Department of English, University of Calicut, Calicut.

4. Kumar, R Shashi. **A study of Arthur Miller's plays.** H S Gour. Dr(Smt.) S Shivraman, Department of English, Dr Harisingh Gour Vishwavidyalaya, Sagar.

5. Naik, Vinayak Triyambak. **Ramanujan's poetry : Two phases.**Patel. Dr K D Kurtkoti,Ex Prof, Department of English, Sardar Patel University, Vallabh Vidyanagar.

6. Nath, Bharat Chandra. **Aristotles poetics: Translated into Sanskrit with critical notes in Sanskrit and critical essays in English on comparative poetics.** Sambalpur. Dr A C Sukla, Reader, P G Department of English, Sambalpur University, Jyoti Vihar, Burla.

7. Pal, Gopendranath. **A constructive study of English and Bengali verb structures.** Calcutta.

8. Payal, Radhika. **Treatement of character in the novels of Patrick White.** Rajasthan. Dr F E Krishna , Department of English, University of Rajasthan, Jaipur.

9. Sherine, Upot. **Dramatic adaptations of narrative fiction : A study of selected works of Henry James and John Steinbeck.** Calicut. Dr Mohammed Elias, Prof, Department of English, University of Calicut, Calicut.

10. Venkateswara Rao, Damera. **Sri Aurobindo : The critic of English poetry and the prophet of overhead aesthesis.** Andhra

Sanskrit

1. Bainagya, Haricharan Das. **A study on Subandhus Vasavadatta.** Burdwan. Dr Biwanath Mukherjee, Prof, Department of Sanskrit, University of Burdwan, Burdwan.

2. Hegde, Gojanan Seetaram. **Sanskrit sources of Yakshagana : A critical estimate.** Karnatak. Dr D N Shanbhag, Prof and Chairman, Post Graduate Department of Studies in Sanskrit, Karnatak University, Dharwad.

ushalya. **Ashwaghosh ke kriyaroopon ka bhashik ad-** HP.

habala Bhatta, E. **The concept of Brahmana as revealed ahabharata.** Karnatak. Dr D N Shanbhag, Prof and Chair- partment of Sanskrit, Karnatak University, Dharwad.

arma, Dinesh Kumar. **Critical study of the inscriptions of aryan (pre-Gupta) period.** Delhi.

ukla, Narender Prasad. **Paniniya vyakaran mein prayukta ron ka alochnatmak adhyayan.** Ghasidas. Dr K P Pandey.

hukla, Sangam Lal. **Mahabharat mein sainya vigyan ka n.** Ghasidas. Dr J N Dubey.

hapak, Kamlesh Kumari. **Mahabharat ke adiparva ka shail- nik adhyayan.** H S Gour. Dr R B Tripathi, Department of , Dr Harisingh Gour Vishwavidyalaya, Sagar.

Aggarwal, Asha. **Prasad sahitya mein Shaivdarshan ka h evam samahar: Ek samgra drishti.** Devi Ahilya. Dr asad Virmal, 120/2, Vallabh Nagar, Indore.

Dangi, Urmila. **Gandhivadi chetna parak kavya ka lan : Bhavani Prasad Mishra ke vishesh sandarbh mein.** Dr Madhusudan Shukla, Department of Hindi, Govern- ollege, Dhar.

dira Shanta, P. **Swatantrayottar Hindi anchalik upanyason jnitik chetna.** Osmania.

Jain, Vinay Kumar. **Nai kavita andolan aur muktibodh.**

Khurana, Simmi. **Upanyas ka rachana vidhan.** Delhi.

Mangal Prasad. **Hindi kahani : Sarthak mulyon kee param-** Bangalore. Dr Saragu Krishna Murthy, Prof, Department of Bangalore University, Bangalore.

Manohar Lal. **Bharatiya avam pashchatya alochana siddan- in naitik maan.** Osmania.

Pakija Ruhi. **Acharya Hazari Prasad Dwivedi ke upanyason on ka manovaigyanik adhyayan.** Jiwaji. Dr Hari Har Prasad ni, Department of Hindi, Government College, Datia.

Raja Kumari, T. **Hindi ka reetikal aur Telugu ka Dakshan Yug : Tulanatmak adhyayan.** Osmania.

Rajdan, Raj Kumari. **Acharya Hazari Prasad Dwivedi ke son mein itihas aur romance.** HP.

Rajeshwar, A. **Jainendra Kumar aur Buchibabu kee kahani atmak adhyayan.** Osnania.

Shakuntla Devi. **Hindi nibandh mein samajik chetna : ndu yug avam Dwivedi yug ke sandarbh mein.** Delhi.

Siraj, Raeesa. **Maithili Sharan Gupta aur Braj Narayan ast ke sahitya mein rashtriya bhavana.** Osmania.

Srivastava, Sangeeta. **Acharya Sashikar : Vyaktitva aur** a. Osmania.

Tripathi, Usha Kumari. **Balaghat Jile ke lok sahitya ka an.** H S Gour. Dr K H Sharma., Government College, vni, Distt Balaghat.

Khan, Mir Mustafa Ali. **Annotated bibliography of published npublished works of Compilation and Translation Bureau, nia University, Hyderabad.** Oasmania.

Mohd Yousufaddin. **Dr Shafiqur Rahman's contribution in iterature.** Osamnia.

Salma Shaheen. **Saghar Nizami - Hayat aur adbi Khidmat.**

ll

Bhattacharyya, Sumita. **A study of Bengali compounds.** Cal-

Khaund, Malaya. **Dr Birendra Kumar Bhattacharyya and his novels.** Delhi.

3. Mitra, Sambhuprasad. **Maithili Sharan Gupta kavitay Madhusudan Datter Probhab.** Rabindra Bharati.

Assamese

1. Boruah, Hemanta Kumar. **An analytical study of the cultural aspects of the Bihu festival of Assam.** Dibrugarh. Prof L Gogoi, Ex-Prof, Department of Assamese, Dibrugarh University, Dibrugarh.

Oriya

1. Bahinipati, Ambika Bellava. **Adhunika Oriya kavya-chetana, 1910-1947.** Berhampur. Dr Upendra Nayak, Reader, Department of Oriya, Khallikote College, Berhampur.

Tamil

1. Arangasamy K. **Ethical codes in Tamil inscriptions.** Madras. Dr V T Balasubramanian, Prof and Head, Department of Tamil, Government Arts College, Udumalpet.
2. Senthamarai, N. **Life of the maritime people as reflected in Ancient Tamil Literature.** Delhi.

Kannada

1. Anantha Padmanabha Rao. **Hattombathaneya shatamanada Haridasa sahitya.** Bangalore. Dr Sumathindra Nadig, Centre for Kannada Studies, Bangalore University, Bangalore.
2. Manjunath, C U. **Inscription and culture of Karnataka, AD 1150-1340.** Bangalore. Dr M Chidanandamurthy, Prof (Retd), Centre For Kannada Studies. Bangalore University, Bangalore.
3. Padashetti, Mahadevappa Mallappa. **Tinthini Monappayya : Ondu adhyayana.** Karnatak. Dr B R Hiremath, Reader, Institite of Kannada Studies, Karnatak University, Dharwad.
4. Ramesh, I V. **A critical study of Muddanna's work.** Osmania.

Telugu

1. Kishen Rao, T. **Folklore in Telugu classical literature, 11th to 16th century.** Osmania.
2. Swarnalatha, Korukonda. **Folklore analysis of the agriculture songs of Konaseema of the East Godavari District.** Andhra.

History

1. Bhattacharjee, Dilip. **Literature and society in Bengal in the late 19th and early 20th century.** Rabindra Bharati.
2. Gayathri Devi, A H. **Deveolpment of local self Government in Princely Mysore.** Bangalore. Dr K Veerathappa, 869-B, 5th Block, Rajajinagar, Bangalore.
3. Meena, Ram Sahai. **Pracheen Bharat mein sampadik vidhi ka vikas.** Rajasthan. Prof S N Dube, Department of History, University of Rajasthan, Jaipur.
4. Saha, Prabhat Kumar. **Some aspects of Molla rule in Bishnupur, 1590-1806 A D.** Calcutta.
5. Saha, Subhas Chandra. **Grass-roots Nationalism : A study of mass-resistances in the District of Darrang and Nowgong of Assam, 1937-47.** NEHU. Prof J B Bhattacharjee, Department of History, North Eastern Hill University, Shillong.
6. Asini, Sunita. **Social and political history of the Sixteen Mahajanapadas.** Delhi.
7. Sharma, Manav Prakash. **Shri Ghanshyam Das Birla ka rashtriya andolan evam samajik tatha sanakritik unnayan mein yogdan.** Rajasthan. Miss Santosh Sharma, Asstt Prof, Department of History and Indian Culture, University of Rajasthan, Jaipur.
8. Sharma, Ramesh Kumar. **Madhyayugeen parampara mein Sant Ramji Baba ka vyaktitva evam kritiva.** H S Gour. Prof B N Sharma, Prof (Retd), Village and P O Machhera, Via Rankhedi, Distt Hoshangabad.
9. Soon, Lee Ock. **Colonialism and education : A comparative study between India and Korea.** Delhi.

THE UNITED STATES EDUCATIONAL FOUNDATION IN INDIA

"Fulbright House", 12 Hailey Road, New Delhi -110001

1991-92 POST - DOCTORAL TRAVEL - ONLY GRANTS

Applications are invited for a limited number of Travel-only Grants to the U.S. from Indian scholars who have invitations
not earlier than Dec. 1991 under the following categories.

A. Research or teaching assignments for a minimum period of two months.

B. Faculty engaged in inter-institutional collaboration, with Indian government approval, for a visit of one to three months.

C. Candidates in the field of social sciences, humanities, find arts, and performing arts with invitations from recognised institutions
and universities for a professional visit of two to three months.

GRANTS ARE NOT AVAILABLE TO ATTEND INTERNATIONAL CONFERENCES AND SEMINARS

Candidates must:

1. have a Ph.D. degree or equivalent published work. (This may be waived for candidates in B & C categories.)

2. be an Indian citizen and be present in India until final approval from USIA. **NO RETROACTIVE GRANT WILL BE GIVEN.**

3. be proficient in English,

4. be in good health,

5. not have been in the U.S. during the last four years to teach, to do research or on a professional assignment.

6. For Category A :

Be accepted by a recognised United States university or research institution for post-doctoral research and/or as a visiting lecture **must have assurance of dollar support to cover expenses in the United States for the duration of the assignment.** The letter of acce must show the nature and duration of the assignment, and must be accompanied by evidence of dollar support at the rate of not less 2 per month and not more than $ 25,000 per academic year. The evidence of dollar support could be in the form of a grant or fellow offered by American universities or research institutions or by Indian universities or research institutions.

7. For Category B & C:

Letter of invitation or sponsorship must indicate that all local expenses will be met by the host institutions in the U.S. Letters of **from personal sources are not acceptable.**

The grant will provide round-trip economy class air travel, by the most direct route, from the candidate's ordinary place of reside his academic institution to his U.S. institution and back. Excursion fare tickets valid for 120 days will be provided for those with prog less than four months' duration in the U.S. Travel will be arranged by the Foundation. **Grantees must travel by American carriers U.S. visas (J-1) issued against IAP-66 forms provided by the Foundation. They must conform to rules and regulations of th Government that are applicable to all exchange-visitors (J-1) visa holders.**

HOW TO APPLY

Eligible applicants must complete and forward two copies of the prescribed application through the administrative head of their inst so as to reach the Foundation no later than August 16, 1991 together with a copy of the letter of acceptance from the U.S. institutio original application, along with enclosures, should be sent to the Director, U.S.E.F.I. "Fulbright House", 12 Hailey Road, New Delhi

The second copy should be sent to the Regional Office of the U.S.E.F.I. (addresses given below) nearest to the applicant's place of resi except in the case of those residing in Rajasthan, Delhi, Haryana, Punjab, Himachal Pradesh, Jammu & Kashmir and Uttar Pra Candidates residing in these States should send both the copies to New Delhi.

The Regional Officer,
U.S.E.F.I.
"Sundeep, 4 New Marine Lines,
Bombay 400 020

The Regional Officer,
U.S.E.F.I.
38 Jawaharlal Nehru Road
Calcutta 700 071.

The Regional Officer,
U.S.E.F.I.
American Consulate Building,
Anna Salai, Madras 600 006

Incomplete applications or applications which are not forwarded through the administrative head of the institution will not be

Government officials should send a copy of their application through proper channel to Under Secretary, (University and Education), Ministry of Human Resource Development, Department of Education, Shastri Bhawan, New Delhi 110 001, as an ad Consideration will, however, be given only if the application through the Government reaches the Foundation in time.

CLASSIFIED ADVERTISEMENTS

ERSITY OF KALYANI

ni, Nadia, West Bengal-741235

t.No. 2/91 dated 18.4.91

cation in prescribed form invited
lowing posts in the scale mentioned
th allowances as admissible under
ersity rules.

urer in History - Two posts (one
nt/one plan post) : Good academic
ith Master's degree in History with
55% marks or its equivalent grade
g an Honours degree in the relevant

ation

Permanent Post: Any branch of
Indian History. (b) Plan post: Any
of Indian History.

arch Associate in History - One post
rary likely to continue) : Honours de-
d M.A. in the relevant or allied sub-
% marks).

ader in Bengali - Two posts (per-
).

od academic record with Master's de-
Bengali or its equivalent grade fol-
an Honours degree in the relevant
.

lization: "Any branch of Bengali Lan-
and Literature".

cturer in Zoology-One post - (Tem-
against lien vacancy)

od academic record with Master's de-
Zoology with at least 55% marks or
uivalent grade following an Honours
in the relevant subject.

alization : Fisheries.

eader in Physics - One post - Per-
nt.

ood academic record with Master's de-
in Physics or B.Tech and M.Tech in
-Physics & Electronics with Honours
ysics at the B.Sc. level in each case.

ialization: Any branch of Physics in case
aster's degreein Physics, everything else
g equal, preference will be given to those
specialization in Electronics.

Lecturer in Physics - One post (Per-
ent).

Good academic record with Master's de-
in Physics or B.Tech. and M.Tech. in
io-Physics & Electronics with at least
marks or its equivalent grade with
ours in Physics at the B.Sc. level in each case.

Specialization: Any Branch of Physics in case of Master's degreein Physics.

(7) Lecturer in English - One post (permanent)

Good academic record with Master's degree in English with at least 55% marks or its equivalent grade following an Honurs degree in the relevant subject.

Desirable

Specialization in Structure of Modern English/ELT

Scale of Pay :

Reader - Rs. 3700-125-4950-150-5700/-

Lecturer - Rs. 2200-75-2800-100-4000/-

Research Associate - Rs. 1600-2000/-

Age: Reader - Preferably below 50 years

Lecturer and Research Associate - Preferably below 40 years.

Pay will be fixed as per rules of the University.

N.C.E.R.T.

National Council of Educational Research & Training

Sri Aurobindo Marg, New Delhi-110 016

Diploma Course in Educational and Vocational Guidance 1991-92

NCERT conducts a Diploma Course in Educational and Vocational Guidance of nine months duration. The Course will commence from 1st August, 1991.

An All India Selection Test and Interview will be held in June, 1991 at Allahabad, Bangalore, Bhubaneswar and New Delhi centres. Exact date of the selection test and address of the venue will be communicated through the call letter.

Admission requirement is Master's degree in Psychology or Education with at least 55% marks (50% marks for Scheduled Castes/Tribes candidates). Medium of Instruction is English. However, the candidates will have option to write their answers in Hindi. Age should preferably be below 40 years. There are Thirty five (35) seats including five reserved for S.C. and two for S.T. candidates. Twenty five trainees will be awarded stipend of Rs. 325/- per month on the basis of merit of the all India Selection Test. Limited hostel facilities are also available.

Application on plain paper in the following format, should reach at the address given below latest by 30th May, 1991.

PROFORMA OF APPLICATION

1. Name (in block letters)................
2. Address for Correspondence.............
3. Whether belongs to SC/ST ....
4. Date of Birth ....
5. Qualifications ....

S.No.	Board/ University	Name of Examination	Percentage of Marks	Year of Passing	Papers offered

6. Experience, if any......................
7. Proposed Centre for the Selection Test......

Attested copies of mark sheets and SC/ST certificate wherever applicable, should be sent along with the application. Those who are in service should send their application through proper channel. Application incomplete in any respect will not be considered.

Head

Department of Educational

Psychology Counselling & Guidance, NCERT,

Sri Aurobindo Marg,

New Delhi - 110 016

davp 91/33

Seven copies of applications (one prescribed form and six xerox copies) must be submitted. A circular containing details of qualifications pay and allowances and other relevant information may be collected from the office of the undersigned from 24.4.91 to 14.5.91 between 11.30 a.m. and 3 p.m. on full working days separately or alongwith the application form on payment of Rs. 7.50 (charge one-fourth for Scheduled Castes and Scheduled Tribes candidates) by current Crossed Indian Postal Order in favour of the "University of Kalyani", personally or by sending self addressed stamped (Rs. 1.80) envelope (25 cm. x 12 cm.) (No form will be issued on Saturdays).

Persons already in employment should apply through proper channel. Seven copies of the application (one prescribed form and six Xerox copies) should be submitted in an envelope superscribed with the name of the post applied for alongwith attested copies of certificates and marksheets in respect of all examinations and reprints of Research publication/Books etc. (one copy each) and the same must reach the office of the undersigned on or before 14.5.91.

The Scheduled Castes and Scheduled Tribes candidates must produce documents of Caste from the appropriate authority (S.D.C.) at the time of collecting forms.

No T.A. is admissible for attending of interview.

The principle of reservation of posts for candidates belonging to scheduled castes and scheduled tribes shall be followed to the extent possible as per orders issued by the State Govt. from time to time.

P. Sircar
REGISTRAR

Rabindra Bharati University

56A, Barrackpore Trunk Road
Calcutta - 700 050

Employment Notification 65/91
Dt. 16.4.91

Applications are invited in six (6) copies on the prescribed Forms for the following posts under the Faculty of Arts :

(1) Professor of History (One post)

Qualifications : Good academic record with a Doctoral degree or equivalent published work. Evidence of being actively engaged in :

i) Research : or ii) innovation in teaching methods : or iii) production of teaching material

The candidate for the post of Professor of History shall be an eminent scholar of published work of high quality and should be actively engaged in research and have about 10 years' experience of teaching and/or research work and experience of guiding research at the Doctoral level. OR

The candidate should be an outstanding scholar with a special reputation who has made his significant contribution/knowledge in the subject concerned.

Specialization : Modern Indian History.

Explanation : For determining good academic record the following criteria shall be adopted :

i) A candidate holding Ph.D. degree with at least a second class Master's degree

ii) A candidate without a Ph.D. degree with a high second class Master's degree and a second class Bachelor's degree with honours at the degree stage; or

iii) A candidate not possessing Ph.D. degree but possessing second class Master's degree with first class honours in the Bachelor's degree.

Scale of Pay : Rs. 4500-150-5700 plus usual allowances and other [illegible] per rules.

The Selection Committee in making recommendations will be guided by the Rabindra Bharati First Statute (Supplement) under the Rabindra Bharati Act,

---

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Telephone 3310059, 3312305,
3313390 & 3312429
Telex: 31-66180 AIU IN GRAM : ASINDU

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INTER-UNIVERSITY CENTRE
INDIAN INSTITUTE OF ADVANCED STUDY
RASHTRAPATI NIVAS, SHIMLA - 171005

ADVERTISEMENT NO.1/91

Through a Memorandum of Understanding with the University Grants Commission, the Indian Institute of Advanced Study is now functioning also as INTER-UNIVERSITY CENTRE FOR HUMANITIES AND SOCIAL SCIENCES (IUC). It provides opportunities of research and academic interaction for university and college teachers in humanities and social sciences. For this purpose, among other things, IUC select teachers as ASSOCIATES to enable them to pursue research, revise theses, or write on the basis of research already done.

Teachers selected as ASSOCIATES can come to the IUC for 1 to 3 months. They continue to draw salaries from their institutions, while the IUC will pay an honorarium of Rs. 3,000/- a month, besides defraying their travel expenses. Arrangements for their board and lodging are made by the IUC.

Teachers interested in coming to the IUC as ASSOCIATES may write for the proforma IMMEDIATELY to the Secretary (A&F), Indian Institute of Advanced

davp 91/16

ıer initial pay in the post concerned admissible to a particular candidate he recommendation of the Selection tee.

choice of the Selection Committee in to the post will not be necessarily d to those who applied formally. hings, being equal preference will be Candidates belonging to SC/ST.

copies of application in the prescribed ong with certified xerox copies of all l diplomas, marksheets of all public ations and other testimonials/documents should reach the undersigned on or 17.5.91.

plications for the post of Professor of y (under Sl.No.1) must also be d with a crossed Indian Postal Order at Rs. 20/- (non-refundable) payable BINDRA BHARATI as application

plication Forms and other particulars ither be obtained personally upto from 12 noon to 2 p.m. (except Satur- University Holidays) from the Office undersigned or by sending a self ad- d envelope 25 cm. x 14 cm. affixed with quisite postage stamp to the Office of dersigned at the above address.

R.C. Mitra
REGISTRAR

PONDICHERRY UNIVERSITY

PONDICHERRY

Applications are invited for one post of Project Assistant on purely temporary basis for a period of 24 months on a consolidated pay of Rs. 2,200/- p.m. to work on National Institute of Educational Planning and Administration Project.

Candidates should be M.A. in Medieval/Modern History with a first class and minimum two years of research experience in handling European sources. Working knowledge of French is essential.

Application on plain paper giving full biodata accompanied by supporting documents should reach Prof. K.S. Mathew, Head, Department of History, Pondicherry University, Pondicherry-605 014 within 15 days of the advertisement. The shortlisted candidates have to appear for interview at Pondicherry at their cost. The selected candidate should join the project on **Ist June 1991.**

REGISTRAR

Department of Biosciences

South Gujarat University,

Surat-395 007

Applications are invited on plain paper complete with bio-data and copies of the relevant documents for the Nuclear Power Corporation sponsored research project entitled "Dietary, Health and Biotic Baseline Survey around Kakrapar Atomic Power Project in Surat District"

1) Post : 1) Survey assistant Junior
    (maximum 3)
    2) Survey assistant Senior
    (maximum 2)
    3) Paramedical Officer (one)
2) Duration : 3 Years.
3) Essential Qualifications :
    1) Survey Assistant Junior :
        First or higher second class in B.Sc. with Zoology/Botany/Microbiology or Chemistry.
    2) Survey Assistant Senior
        First Class or higher Second Class in M.Sc. with Biosciences/Botany/Zoology
    3) Para Medical Officer
        M.B.B.S. or equivalent medical degree
4) Fellowships
    1) Survey Assistant Junior Rs. 1200/- P.M.
    2) Survey Assistant Senior Rs. 1800/- P.M.
    3) P M O Rs. 2000/- P.M.

Application should reach the undersigned on or before **10th May, 1991.**

Dr. P.K. Gadhia
PRINCIPAL INVESTIGATOR

PONDICHERRY UNIVERSITY

Pollution Control & Biowaste Energy Programmes

Salim Ali School of Ecology

CHALLENGING RESEARCH OPPORTUNITIES FOR ENGINEERS/SCIENTISTS

pplications are invited from Indian citizens for the following posts under the research-cum- sultancy project, 'Sustainability Studies in Manali Industrial Complex. The project is spon- d by the industries which are either functioning or due-to-be-commissioned in the Manali ıstrial Complex, Madras, and is being operated under the aegis of Tamil Nadu Pollution trol Board. The posts are purely temporary; the appointments will be made initially for six ths and will be extendable, subject to satisfactory performance, for a maximum period of ears.

ANDIDATES HOLDING ME/MTECH OR EQUIVALENT QUALIFICATION WITH TSTANDING EDUCATIONAL OR PROFESSIONAL RECORD WILL BE ELIGIBLE R PURSUING PhD DEGREE IN ENVIRONMENTAL ENGINEERING/HAZARD AS- SSMENT & MANAGEMENT WHILE WORKING ON THE PROJECT. Candidates with ter's degree in other subjects may also be considered for admission to PhD Programme vided they have and outstanding academic career and/or demonstrated aptitute for research.

Research Engineer/Scientist @ Rs. 4000 p.m, 3 posts

ME/MTech in Civil/Chemical/Environmental/Public Health/Mechanical Engineering doctorate in any subject; with specialisation or experience relating to air pollution/wa pollution/impact assessment/hazard management studies.

Project Assistant @ Rs. 2400 p.m, 4 Posts

BE/BTech in Civil/Chemical Engineering or MSc in chemistry/environme science/botany/geology/zoology/mathematics/statistics/humanities & social sciences/manag ment.

Desirable : a) Experience related to hydrology/environmental engineering/wa analysis/air analysis/biological monitoring b) MTech/MPhil in relevant subject c) aptitute mathematical modelling (for mathematics/statistics postgraduates).

Field/Lab Assistant @ Rs. 1800 p.m, 4 posts

BSc in Chemistry or diploma in Civil Engineering

Desirable : a) experience relating to chemical analysis/hydrological and topographic surve b) MSc/BE or equivalent qualification.

Computer Assistant @ Rs. 1600 p.m, 1 post

Degree/Diploma in Computer Science or a bachelor's degree with certificate in compu science; good knowledge of PASCAL/BASIC.

Steno-typost @ Rs. 1600 p.m, 1 post

12th Standard (Plus two) with advanced certificate in typing (60 w.p.m.) and short-han good knowledge of English language spellings, grammar, and syntax.

General Instructions : 1) Applications should be made on plain paper and must contain th following information supported by attested copies of relevant educational and experienc certificates : Name, father's name, date of birth and age, present designation with scale of pa and pay drawn, academic qualifications (indicating in tabulated form and commencing fro school leaving certificate : the certificate/diploma/degree earned,institution where studie duration of study, year of passing, percentage of marks and class obtained, and rank obtaine if any), professional experience (indicating in tabulated form : designation, duration of emplo ment, institute where employed,pay scale, pay last drawn, and nature ofduties honours(awards, if any, joining time required if selected, signature.) 2) Applications must accompanied by a crossed postal-order of Rs 60/- (SC/ST candidates are exempted) drawn favour of Finance Officer, Pondicherry University, Pondicherry, and addressed to **Prof S Abbasi, Salim Ali School of Ecology, Pondicherry University, Pondicherry 605 014, so as reach on or before 6.05.1991.** 3) Applications incomplete in any respect will be rejected.

4) Mere fulfilment of essential qualifications will not be a guarantee for being called interview and Pondicherry University reserves the right for short-listing the applicants 5) T degrees/diplomas/certificates mentioned in essential qualifications must be from unive sities/institutions recognised by the governments of Tamil Nadu and Pondicherry.

REGISTRAR

EPARTMENT OF BUSINESS ADMINISTRATION

ROHILKHAND UNIVERSITY, BAREILLY

ntrance Test for admission to the following Postgraduate Degree/Diploma Programmes for the academic 1991-92 will be conducted as indicated below:

A TWO YEARS (FOUR SEMESTERS) FULL TIME PROGRAMMES

f Test : **30th June 1991. Intake : Thirty students.**

of Examination: Bareilly.

te for receipt of applications : 25th May 1991.

s : Written test will include General English, Numerical Ability, Reasoning Ability and General knowledge.

e who qualify in the written test will be exposed to the second phase of the screening test i.e. group on and personal interview.

ons **Eligibility:** A minimum of 45% marks either in a three years Bachelor degree or in a Master degree equivalent in any discipline. A relaxation for 5% is granted for the SC/ST.

ART TIME POST GRADUATE DIPLOMA PROGRAMMES DURATION ONE YEAR (TWO STER).

Graduate Diploma in Marketing & Sales Management.

Graduate Diploma in Personnel Management & Industrial Relations

Written Test: 14th July 1991

25 students in each diploma programme, 5 seats in each diploma are reserved for sponsored candidates m organisations, subject to their passing the entrance test.

of Examination: Bareilly.

te for receipt of applications: 31st May 1991.

s: Written Test includes General English and General Knowledge. Those who qualify in the written test ll be exposed to the second phase of the screening test i.e. group discussion and personal interview.

ity: A graduate in any discipline, preference will be given to working executives/personnels.

O APPLY: Candidates should submit two copies of the application (Each of the three programmes is a parate identity, a separate fees & applications would be required for each of the programmes) neatly type full scape sized paper in double space on one side of the paper in the proforma published with this notice.

application form complete in all respects accompanied by required certified copies of credentials, three raphs attested on the back side by a Gazetted officer/principal of the institution last attended, admission of Rs. 225/- through a crossed bank draft payable at Bareilly and drawn in favour of Finance Officer, hand University, Bareilly should reach the Registrar, Rohilkhand University, Bareilly-243001(U.P.) on or the last date.

Envelope should be subscribed with the name of the course the candidate is applying for.

ndidates who are appearing in any of the qualifying examination whose result is still awaited may be rmitted to appear in the entrance Test provisionally but they must submit the qualifying examination results test by July 31 1991 failing which their candidature will not be considered.

complete applications and those received after the prescribed date will not be entertained under any rcumstances.

o refund of the fee shall be allowed.

REGISTRAR

Contd....

FORMAT

APPLICATION PROFORMA TO THE M.B.A./P.G. DIPLOMA IN PERSONEL MANAGEMENT & DUSTRIAL RELATIONS/P.G. DIPLOMA IN MARKETING AND SALES MANAGEMENT

Roll No. ______________
(to be assigned by the office)

Note:

Attach three self-addressed unstamped envelopes of the size 11.5 cms x 27.5 cms alongwith three photog attested on back side.

Particulars of fee:

Rs.225/- Bank Draft No ______________ Date ______________

1- Name of the candidate (in capital) ______________

2- Sex: Male/Female (Tick)

3- Father's name: ______________

4- Date of birth ______________ ______________ (as per matric certificate)

5- Category: SC/ST/BC/Gen (Tick whichever is applicable)

6- Academic Record:

Examination	University/ Board	Roll No	Year/ Session	Subject offered	Marks obtained	%
B.A./B.Sc./ B.Com./B.E.						
M.A./M.Sc./ M.Com./M.Tech.						
Any other						

Note: Attach attested photostat copies of the detailed marks certificates.

7- Address for correspondence:

DECLARATION:

I solemnly declare that I have filled in the application form in my own hand and the information given th is correct. If found incorrect, my candidature for the Entrance Test and subsequent admission to the course stand cancelled.

Signature of the candidate.

Signature of the ca

REGISTRA
Rohilkhand University, Bar

Published by SUTINDER SINGH, on behalf of the Association of Indian Universities, AIU House, 16 Kotla Marg Delhi-110002. Grams ASINDU Phones: 3314659, 3312305, 3312429, 3313390, 3323097 and 3712435 Telex: 31-66180 AIU IN by Navchetan Photoset (P) Ltd. at Navjeevan Printers, 1-E/2, Jhandewalan Extension, New Delhi-110055. Tel. 529157

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University News

MAY 6, 1991

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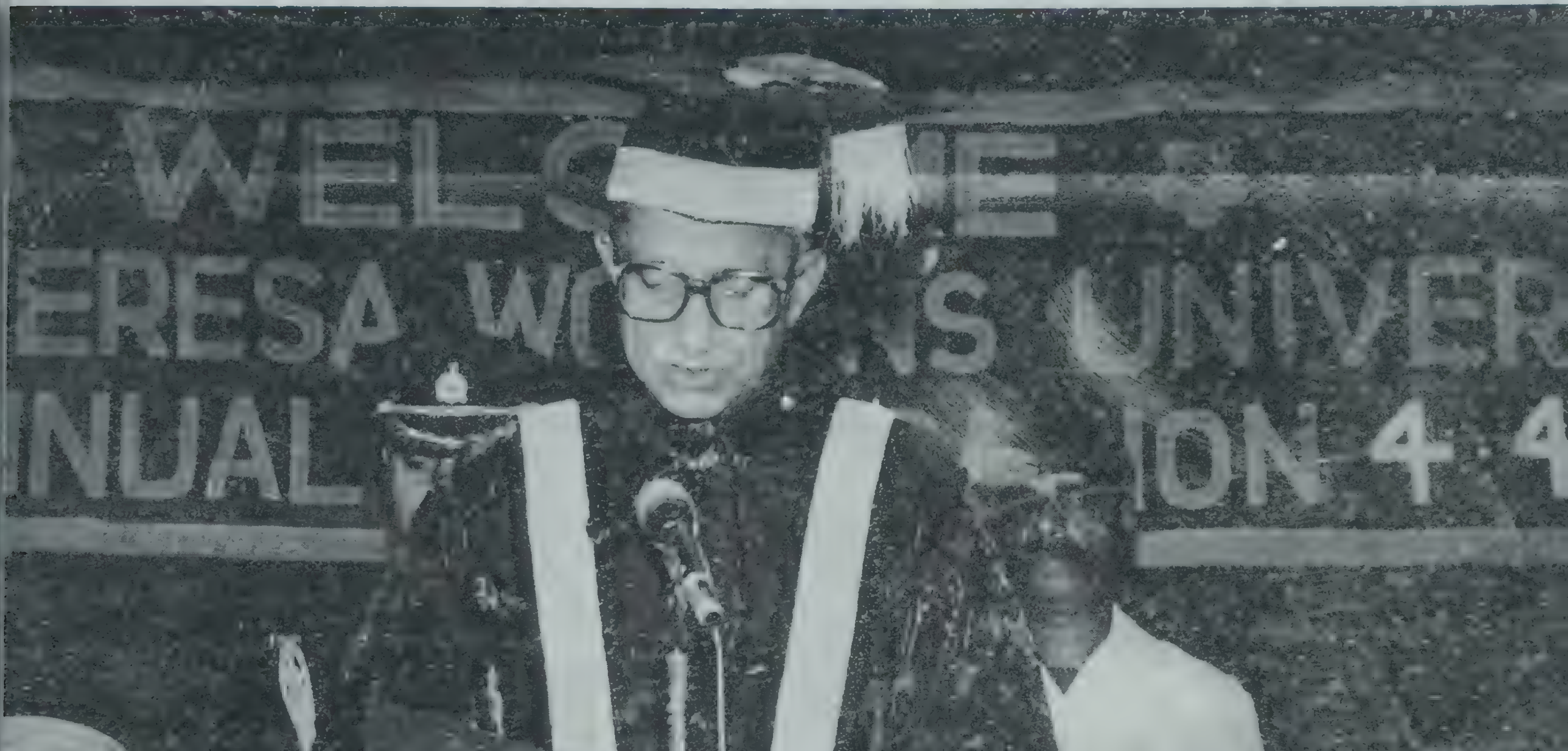

Hon'ble Shri Bhisham Narain Singh, Governor of Tamil Nadu and Chancellor, speaking at the fourth annual convocation of Mother Teresa Women's University. On his left is Mrs. N. Lakshmi Menon, Former Minister of State for External Affairs, who delivered the Convocation Address and on his right is Dr. (Mrs.) J.K. Pillai, Vice-Chancellor of the University.

INDIAN COUNCIL OF MEDICAL RESEARCH

Applications are invited upto **20th June, 1991** for the following posts at the Council's Institutes/Centres

AT THE ENTEROVIRUS RESEARCH CENTRE, BOMBAY-

DEPUTY DIRECTOR - One post (Scale of pay of Rs. 4500-150-5700)

Qualifications & Experience : Essential : MBBS with 12 years research/teaching experience in Virology (10 years for those with M.D. in Microbiology or Pathology).

Desirable : i) Ability to guide postgraduate students. ii) Administrative ability.

2. AT THE TUBERCULOSIS RESEARCH CENTRE, MADRAS -

DEPUTY DIRECTOR (CLINICAL)- One post (Scale of pay of Rs. 4500- 150-5700)

Qualifications & Experience : Essential : MBBS with 12 years research experience in tuberculosis (10 years for those with M.D. (Tuberculosis) or M.D. (Medicine).

Desirable : Experience in conducting controlled clinical trials in the treatment of communicable diseases.

Job Requirements : To conduct controlled clinical investigations in the treatment of Pulmonary Tuberculosis, Tuberculous lymphadenitis, tuberculous meningitis, tuberculosis of the spine and leprosy. The incumbent will have to supervise the work in the clinic which undertakes the Clinical Studies in patients. He will also have to tour the districts in various States where "Short Course Chemotherapy under District Tuberculosis Programme" is undertaken. He will be required to plan, guide and supervise the conduct of the clinical investigations and will have certain administrative responsibilities in the Clinic.

3. AT THE REGIONAL MEDICAL RESEARCH CENTRE, JABALPUR -

ASSISTANT DIRECTOR - One post (Scale of pay of Rs. 3700-125- 4700-150-5000)

Qualifications & Experience :Essential : a) MBBS
12 years experience (10 years only for candidates
M.D. in Community Medicine in research/teaching
the field of Community Medicine with substantia
search contribution in the field of epidemiology, Co
munity Medicine. b) Original work as evidenced
publications.

Job Requirements : A) To participate in planning
implementation of research in the field of Commu
Medicine with particular emphasis on delivery of hea
care services to the tribals, undertake surveys to det
health problems, formulate operational interventio
and action oriented research. B) Multicentric disci
nary studies as well as collaborative studies at the
stitutional, state and national levels in various aspects
tribals health.

4. AT THE NATIONAL INSTITUTE OF VIROLOG PUNE -

SENIOR RESEARCH OFFICER (CLINICAL VIRO OGY - One post (Scale of pay of Rs. 3000-100-3500-1 4500)

Qualifications & Experience: Essential: a) MBBS
6 years research/teaching experience related to Co
municable Diseases. OR M.D. in Medicine/Microbi
ogy/Pathology & Bacteriology/P.S.M. with at leas
years post-doctoral research/teaching experience.
Good quality published work.

Job Requirements : The incumbent will be required
carry out research programmes of the Institute. T
incumbent should also work on rapid diagnosis of v
diseases and research on sero-diagnosis of viral d
eases. To act as an Administrative- in-Charge of Fi
Station, Bangalore. He should be prepared to carry
field investigations on diseases anywhere in India
any period of time.

AGE:Below 50 years for the posts of Deputy Director and below 45 years for the post of Asst. Director, Sen
Research Officer. SC/ST candidates allowed relaxation in accordance with Govt. of India Rules.

Allowances as per Central Government rules are admissible on the above pay scales. Benefits of pens
admissible. Private practice is not allowed. However, NPA as per rules of the Council is admissible to med
graduates only.

Candidates called for interview for the posts of Deputy Director and Assistant Director will be paid 1st cl
rail fare and for the post of Senior Research Officer will be paid 2nd class rail fare by shortest route, on produc
of documents.

Applications from employees working in Central/State Govt. Deptt./Public undertaking and Govt. fun
research agencies must be forwarded through proper channel.

Application forms with details can be obtained from the office of **the Director General, Indian Council**
Medical Research, Ansari Nagar, Post Box No. 4508, New Delhi-110029. Forms duly completed should be s
to the Director General, Indian Council of Medical Research, Ansari Nagar, Post Box No. 4508, New Delhi-11
with a crossed IPO for Rs. 8/- payable to the Director General, ICMR, New Delhi. SC/ST candidates are exemp
from this payment.

Incomplete and late applications or without postal orders will not be entertained. The name of the post and
the Institute/Centre must be indicated in the Application form.

Separate application form should be submitted for each post with crossed IPO for Rs. 8/- and for ea
Institute/Centre.

IVERSITY
NEWS

X MAY 6
1991
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DER SINGH

UGC and Restructuring of Courses

K.K.Bajaj*

Higher education draws the attention of our thinkers and planners in the important context that it continues to be accepted as an agent of social change and national development. While there has been a continuous debate on the question of clarity on educational priorities, programmes and strategies, management and resources engage us most seriously. There have been successive commissions and committees on all relevant issues. Some have emphasized toning up of university administration for better results while others have emphasized better emoluments for teachers, working conditions, value orientation, development of intellectual capacities, national consciousness, vocationalisation and new information strategies. The consesus continues, however, to emerge that the universities contribute immensely to our growth. The enormity of the size of the system of higher education poses a strong challenge to our sense of comprehension and implementation vis-a-vis availability of resources. The system shows signs of asymmetry between planning and execution, between quantity and quality and between university autonomy and accountability. The system has its supporters and critics among the cross section of our social thinkers, politicians, educationists, economists and bureaucrats. Each section has its own set of shortlived priorities to guide their planning. However collective wisdom of diverse forces continues to dominate our heterogeneous planning particularly with regard to the real role of universities and colleges in higher education. Despite hazy notions with streaks of robust optimism and proclaimed faith in democratic process the system continues to experience a see-saw of priorities, regional pulls and imbalances.

The trouble with Indian educational planning is like trying to collect water without a container. In the effort we can hold only a handful which too threatens to drip. The panic planning coupled with shaky management of colleges and universities opened on account of political consideration continues to keep us concerned in an effort to hold ourselves tight. The happy note in the paradigm is that we keep on constantly planning while justifying our actions and do not lose heart in the framework of cooperation and co-existence, tolerance and permissiveness, diversities and divisions while we continue to look upon our colleges and universities as traditional seats of higher learning. In this age of unprecedented expansion they have also acquired new functions and linkages. Universities are the guiding partners in collegiate education from recruitment and orientation of teachers to designing of courses and other activities of academic nature. The colleges have to be affiliated to the universities to carry their insignias on the testimonials of their students. The examinations have to be conducted under the umbrella of the affiliating universities and the relationship so inherited from British times continues to be fostered throughout. While the universities are by and large seats of traditional higher learning they are also having pockets of manipulative individuals, interfering bureaucrats, manoeuvring officers, students' pressure groups and stagnating teachers besides many political appointees in every category. It is in this context that the entire process of planning and implementation halts and fails to have its real impact in the direction of qualitative quantum improvement.

University education aims at the acquisition, development and inculcation of proper orientation for the survival of the individual and society. This is done through teaching, research and dissemination of existing and new

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information, that is why it is called a storehouse of knowledge. In the context of their role they are seen as the keepers of societal conscience in many cases but a large number of universities have been performing the functions of parking places for our unemployed and unemployable youth. The academic packages which are being offered continue to be irrelevant and obsolete to a large extent. Under the patronage of university dons and others who constitute Boards of Studies and other statutory bodies meant to prescribe and approve courses, changes are minimal and shortcut methods rampant to enable the students to qualify at ease. There are no region specific and socially relevant courses with appropriate communication strategies in the teaching learning process. Teachers and courses are inseparable from each other. It is argued that in prescribing courses there is a fair amount of autonomy which is exercised by the teachers. But in terms of applicability and accountability most of the academic packages are repetitive and overlapping without any micro level planning and defined thrust in favour of students. There are not many area specific courses. Here the concept of autonomy loses its meaning. Instead of enhancing the level of mental competence, the system leaves the students to place greater reliance on coaching classes offered by teaching shops in the corners of large cities and the help book industry which produces such books as give ready made material to come to the rescue of our average students both in arts and science. The concept of developing instruments and tools which could be used in experiments and put to application, has also not taken over our traditional approach, books, laboratories and teaching-learning modules. The small effort recently made by UGC to create such awareness packages in Chemistry, on regional basis, is yet to produce perceptible results in colleges despite practically beneficial incentives being offered. Perhaps the micro level planning has not been envisaged. The autonomy to our universities in courses for our colleges has also produced limited results. The environment has not been created in which the autonomy given to the university and college teachers could really become a source of strength and accountability leading to societal advantage.

A major handicap in science education is stated to be the paucity of funds. It is admitted that in the absence of appropriate financial inputs we cannot catch up with the advanced scientific and technological advances registered by leading western countries. But if we want to keep pace within education which is in itself a knowledge intensive industry, we have to inventorise our resources, classify them in terms of capabilities and put them to use in terms of our drawn priorities. The concept of curriculum development centres in different subjects under the guidance of UGC has given subject specific improved courses after a lot of delibera-
tion,insight and hard work. But these courses
come to be accepted to take the place of our tra
courses because the UGC could not whip these
academic mainstream of the colleges nor could
any special recurring incentives for the popula
of these as a part of its grant package. The re
ing of courses with specific UGC assistance
lacked the attraction and recognition in society
them acceptable. The scheme has not reached
the colleges. Social utility of the restructured
has not been established. Area specific planning
is absent. They lack recognition and credib
majority of our students and teachers in the
continue with conventional courses on
readymade material is available in abundance
market irrespective of the fact whether or not
dents with these subjects will ever get a job
market. The courses so restructured should
direct bearing on society. Though their utility
never be in doubt yet in the name of academic au
while the courses are framed, their application
extent to which these would be useful be tak
account.

The courses having linkages with industry,
ture, population education, social geography,
rights, nationhood, social services, environmen
munity living, energy observation, soil manag
women's studies, land records, planning, ele
repairs, computer applications, fisheries, fruit pr
tion, handicrafts, insurance, acturial science, des
modelling, decoration, home management,
accounting, travels tourism guidance, counsell
should be encouraged as interdisciplinary ac
ventures. In fact, the courses have not developed
in our colleges and here the concept of ac
autonomy has not brought the desired resu
ticularly when the courses in colleges and univ
are capsuled only to suit the convenience of
and demand of students, pressure groups, camp
pulsions and circumstantial considerations. Wh
dents and teachers modify the extent of cour
determine the content and quality of question p
terms of lectures attended or delivered acco
their convenience, it adversely speaks of the co
academic autonomy at large. The perform
dicators in the case of students and teachers
should be solely linked to academic considera
arbitrarily compromised under the dictates
pressure groups and peer groups among teache
is a scenario which cannot fit into the concep
academic autonomy. The role of UGC in th
becomes crucial. While the UGC has to act as
academic body giving its guidelines on acad
ters with a view to maintaining standards as a
duty; it has to give a serious thought as to how
implement the efforts of the states in this di
present constitution and performance of

nt bodies should be reviewed so as to make
representative both at the level of the col-
he universities. The courses are the lifelines
leges and universities. These have to be
d thoroughly and their adoption and im-
on monitored vigorously by UGC. Though
rsity Grants Commission does not have to
elf to any recurring liability in the shape of
to colleges on this account but a way out may
found where the grant could be linked to
on of new updated or restructured courses.
nce to the colleges and universities for books
ment should be in terms of new courses intro-
not merely as a general dole to the college
indiscriminate addition of books in existing
nd courses. The UGC should act as an
o ensure that the new updated courses are
l by the colleges and that the autonomy being
y the universities and colleges in continuous-
g or at least marginally revising the existing
colleges and university departments no
ryives indefinitely. If the principle of
as an ever- replenishing stream is accepted,
reason why courses should not be revised and
ted every four to five years with additional
inputs. At times it is felt that the patronage
ity dons and willing cooperation of college
designing courses for the colleges have failed
these. Their association gives them certain
perty rights while status quo continues to be
d. The information banks in different sub-
ld not be permitted to stagnate. The UGC
me forward and strengthen the curriculum
nt programme and review the scheme of
ng of courses so as to make it more practical
atic.

d to do so continues to be felt but the task is
ne in view of the vastness of our collegiate
particular, with all its regional disparities,
s and financial constraints. The spectrum of
ith innumerable combinations with poor in-
e and teachers to cope with these, makes it a
exercise. As teachers and courses are in-
all by themselves, a majority of our teachers
ir traditional mental grooves and would re-
ffective motivational orientation programme
hing their information on their subjects and
ing skills in consonance with the require-
e new, restructured or updated courses. The
arning process will promptly call for a basic
the attitude and performance indices of our
The establishment of Academic Staff Col-
een a welcome step in the direction of im-
e capabilities of our university and college
their profession. While its total national
he context of diversity of the subjects of our
teachers is yet to be felt, tackling of restructured courses should be one of its main concerns, besides cultivation of confidence building strategies to improve the level of teaching. If these institutions are merely to certify participants for promotion or grant of senior scales, this would defeat the very purpose for which these were set up. The teachers attending these orientation courses should be given a new perspective to tackle their subjects in such a manner as to elicit greater response and participation of their students. They should carry home the message that the orientation course at the Academic Staff College is not a simple initiation to teaching profession for the new and an academic picnic for others but it has to equip them with a new psychology to tackle the requirements of interdisciplinary and updated courses which would make their products more socially relevant and employable. Failing this, we shall simply continue to waste our resources as we have been doing during the last over forty years. Our effort in the Academic Staff Colleges will also not bring about the much desired qualitative change as it will be just a re-run of our earlier similar exercises aimed at improving the level of our teachers with the only change in emphasis to the extent that earlier it used to be Summer Schools and now this is through more investment intensive established formal institutes baptised into the system by the UGC to be later on tagged to the apron strings of poorly financed universities and state governments who are even otherwise finding it difficult to finance the universities and colleges.

In a way now is the time when the UGC has to review its role in retrospect on the subject of curriculum development centres in different subjects, restructuring of courses, role of academic staff colleges and its assistance packages related to academic improvement. The teachers have to be given a fresh orientation for these. Fresh planning is called for in the direction of identifying micro level needs, area specific priorities and regional imbalances linked to new courses and revision of old courses to create appropriate linkages with society so that the students could usefully terminate their study of these and could settle in life. The question of autonomy of teachers in universities and colleges in determining these courses should be linked to social relevance and accountability. There has to be an expiry date attached to each conventional course whereafter it has to be reviewed and modified in the light of global information explosion which we are facing. We have to make our products competitively competent for our survival. This is possible only through a serious fresh look at the present scheme of restructuring of courses at the level of the UGC from where this has to percolate to the level of our universities and colleges. The UGC has to offer academic leadership with definite perspective and assistance packages to establish its credentials in its effort to maintain standards of higher education.

Ramamurti Committee's Recommendations

Additional Responsibilities for Higher Educational Syste

J.N. Kapur*

Present and Additional Responsibilities

Higher Education in India has had three main objectives so far, viz. (1) learning of advanced topics by students, (ii) teaching of advanced topics by teachers, and (iii) research in frontier areas by research scholars, teachers and professors.

The Committee has noted that these functions are not being properly performed by the colleges and universities, but has recommended at least two more functions for the universities, viz. (iv) involvement in regional development programmes, and (v) involvement in improvement of school education. It has even hoped that the activities in these two areas will improve the performance of the higher educational system in the first three areas. It has of course not recommended any additional allocation of funds to the university system for performing these two additional functions.

While most persons would agree that universities should play their role in regional and school development, one would have expected the committee to go into the causes for the system failing to discharge its three responsibilities in a satisfactory manner, and suggest remedies for the same so that the system could be geared to take up additional responsibilities in a realistic manner.

Lack of Motivation for Excellence in Learning

The main reason for the poor performance of the system is lack of motivation. Students are not motivated for excellence in learning because (i) There is extreme mismatch between the number of available jobs and the number of graduates produced, and (ii) even the available jobs not being filled on merit basis and on the basis of 'caste' or 'influence of parents'. Students in the West study hard because a match is ensured between number of jobs and number of graduates by restricting admissions to higher education and giving good quality education to those admitted and by great fairness and impartiality in the distribution of jobs.

The committee does talk of restricted admissions to postgraduate and research programmes, but it does not talk of restricted admissions to underg
programmes for the sake of ensuring social jus
course the problem of fairness in distribution of
outside the purview of the Committee.

Lack of Motivation for Excellence in Teachi

Teachers are not motivated for excellence in
ing because there are no awards for good teach
no punishment for atrocious teaching and som
for even not teaching. The trade unions of teache
sufficiently strong to see that no rewards and p
ments are given and all teachers are given the
facilities, salaries, and teaching loads independe
their performance. Every teacher gets a *dejure* t
after one year of appointment and a *defacto* te
day he joins.

In the West, it may take 6-8 years for a person
a tenure and during this period he is on contract a
contract may or may not be renewed. Howeve
renewal of the contract does not depend on the w
individuals, but is based on objective evaluation
work by his students, his colleagues and his peers.
after a teacher becomes confirmed, he has to be a
teaching because of students reaction surveys o
teaching. Even a senior professor can be misera
his students say he is not teaching well. There ar
incentives in the form of Distinguished Teacher A
and these are given, not on the basis of assessme
few persons, but on the basis of assessment by st
and peers.

Lack of Motivation for Excellence in Researc

Researchers are not motivated for excellence
search because of defective criteria for assessm
research like number of publications only and be
of nepotism and corruption in the promotion p
and our industrialists wanting to make quick pro
buying technology from abroad rather than in inve
funds for developing new technology ourselves.

Lack of Well-Defined Criteria

Our criteria for evaluation of excellence in lea
are wrong. Our examination system declares a st
excellence if he has a good memory for the exam
day. Our criteria for excellence in teaching are
tive because they require only one report of good

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e head of department or principal.

ave to evolve satisfactory criteria for excellence ing, teaching and research and motivate stu- eachers and researchers to work for meeting iteria. in fact we know the criteria, but these are t out because of the power of the vested inter-

r a Criteria for Excellence in nal Responsibilities

ne same way, if the two new functions of the sities are to be implemented properly, ap- ate criteria will have to be evolved. Universities rform these functions through their students, rs and karmacharis and they must be motivated orm these functions.

tion for Making Real Contribution ool Education

n now many university teachers are involved in education. They are members of syllabus- g bodies, textbook writing teams and boards of ers. They have great deal of influence and also some money in the process. However very few sity teachers have taken interest in developing urricula, training of school teachers, developing methods of teaching children from weaker sec- and bright students and helping to improve school tion. Even those who have done so have done some sacrifice. A lecturer or a reader cannot do ork because his promotion will depend only on his rch output. A professor is not worried about his otion, but he is worried about peer recognition. downgraded in the eyes of his peers because he is osed to be devaluing himself to the 'lower' activity lping schools because he can perhaps not under- he higher activity of 'research'. There is no reward ving time to schools, but there is punishment for g time off from research. Unless our value-system ges, so that the value attached to 'school service' is st as high as value attached to research, this new ion allotted by the Committee may be a non- er. Moreover if one wants to be really useful to ols, one has to get involved with their students and ers as deeply as one does with one's research. We evolve criteria for depth in involvement.

n the University of Waterloo, which I visit every , the Faculty of Mathematics has two professors may teach some classes in the University, but whose n job is to interact with teachers in schools. They nise mathematics competitions, they visit schools, uss problems with teachers and students, bring them contact with other university teachers, help hers in the activities of their professional organisa- s. In fact they know every mathematic teacher in the region by his or her first name and they are highly respected by the school community as well as by their university colleagues, though they do not publish papers.

Interaction Between Town and Gown

It should also be remembered that it is not only the university which has to contribute to regional development. It is also the region which can and should contribute to the development of the university. The region can give funds, but apart from funds it can give its expertise. The academicians in the universities have academic knowledge based on books, but the community has people who have practical experience of problems of life, business, science, industry, management and technology. Students need both and universities must respect the expertise in the community.

In Australia, the universities are based primarily on academics, but the Colleges of Advanced Education are joint enterprises of the academic community and the community at large.

This means that at least some courses are framed in consultation with experts in the community and some courses are taught jointly by academicians and the members of the community. Part time students form a major portion of the student body and their special needs are always kept in view.

Providing Motivation to Universities for Additional Responsibilities

Again if university involvement in regional life and educational development has to become a reality, due credit should be given to all those who work towards this end. The students should be given some credit for making persons literate. In fact it may be compulsory to every undergraduate student to make ten persons literate every year during the summer vacations. Since higher education is a highly subsidised activity, society can expect this return from the students.

Similarly teachers have to be given some credit for the additional work in some way. Either some teachers with special aptitude for community service or educational work should be appointed exclusively for this work or teachers doing this work should be given reduced teaching loads. At the time of promotion, community service should be exclusively taken into account. In some universities, the rule is that for promotion to the next rank a teacher's performance in teaching, research and community service are all considered. He is expected to be excellent in one of these, above average in the second and at least average in the third. Explicit criteria are laid down for each category for one to be classified as excellent, above average or average and every teacher knows this in advance. He can choose his targets according to his aptitude and taste. At present ninety percent emphasis is laid on research, almost nil on teaching and ten percent on extra curricular activities. Everybody is supposed to be a good teacher unless proved to be otherwise.

Need for Additional Funds and
a Proper Mechanism

If colleges and universities have to perform additional functions, additional funds of the order of 15-20 percent of the present budget have to be provided to them. In the absence of these funds and a proper mechanism, the recommendation will remain a pious wish. This expenditure need not be regarded as expenditure on higher education. It is rather to be regarded as a good investment for the development of school education and national development in the right direction.

Of course the funding can be substantially reduced if students, teachers and researchers are given non-monetary rewards, in form of prestigious certificates, awards and recognition by the media.

Concluding Remarks

There is no doubt that it is highly desirable to implement the recommendations about additional resp sibilities with great enthusiasm. A prerequisite national debate on all the implications and a determ tion to see that motivation is inbuilt for excellence in discharge of these two additional responsibilities and the same time motivation for excellence in the earli three responsibilities is strengthened.

Bibliographical Comments

—Issues concerning excellence in the first thr responsibilities of higher education are discussed detail in J.N. Kapur, *Towards Excellence in Hig Education*, New Delhi, Mathematical Sciences Tru Society, 1991. Pp. 272

—The detailed working of a number of Australia colleges of Advanced Education has been given in J.N. Kapur, *Current Issues in World Higher Education*, Ne Delhi, S.Chand, 1977. Pp. 176

—The role of university professors in school education with special reference to mathematics education discussed in J.N. Kapur, *Fascinating World of Mathematical Sciences, Vols. IV, V & VII*. New Delhi, Mathematical Sciences Trust Society, 1990.

Post Graduate Institute of Medical Education & Research Chandigarh

ADMISSION NOTICE NO. 18/91 (ACAD)

Closing date for the receipt of application is 27th May, 1991

Applications, on prescribed form are invited for following postdoctoral/postgraduate courses etc., for academic following session sta from 1st July, 1991 :-

I. SENIOR RESIDENTS : 3 - For DM/.M.Ch. Courses i) DM (Endocrinology) : 1 ii) M.Ch. (Neurosurgery) : 2

ADMISSION QUALIFICATIONS FOR DM (Endocrinology) :-

MD (Med) or MD (Paed) passed from a recog. Univ./Instt. for M.Ch. (Neurosurgery) :-

MS (Gen-Surg) passed from a recog. Univ./Instt.

II. FIRST YEAR JUNIOR RESIDENTS :- For 3 years M.D.S. course of Panjab University in the speciality of Pedodontia & Preve Dentistry -2

One seat is reserved for a candidate belonging to Sch. Castes/Tribes. One seat is also available for a sponsored/deputed candidate

ADMISSION QUALIFICATIONS :-

i) B.D.S. passed from a Univ./Instt recognised by Dental Council of India.

ii) Candidates registered for BDS course from 1985 onwards must have either already completed or be due to complete one year compu [illegible] rotating internship by 30th June, 1991.

iii) Must be registered with the Central State Dental Registration Council.

III FIRST YEAR JUNIOR RESIDENTS :- (House Job) in Dentistry 4 post Duration 6 months One post reserved for Sch. Castes/Tri

ELIGIBILITY REQUIREMENTS :- Same as prescribed for category No. II above.

GENERAL INFORMATION

1. For Cat. 1, Candidates with more than one attempt (i.e. one 'failure', 'compartment' or re-appear') during their MMBS career and in BD course for Cat. II & III are not eligible. However Sch. Castes/Tribes candidates with upto two attempts during their MBBS/BDS cou will be eligible.
2. Those applying for reserved seats must append, with their applications, a certificate from the Distt. Magistrate concerned in suppor their claim. No other certificate is entertained
3. No. of seats, indicated above is provisional and is subject to alteration without prior notice.
4. Application must be accompanied with non refundable fee of Rs. 60/- in the form of postal order/bank draft in favour of the Director each of he courses etc., mentioned above. A candidate applying for more than one course/speciality etc., is required to submit sepa application for each speciality/course complete in all respects.
5. Application form and detailed information are available from the office of the undersigned either personally on payment of Rs. 20/- counter from 10.30 AM to 11.30 AM on all working days and from 2.30 PM to 3.30 PM on all working days (except Saturdays) or by for which the request be accompanied with a self addressed envelope size (23x10cms) indicating thereon the course etc., for wh required, bearing postage stamps of Rs. 4.50 and crossed postal order for Rs. 20/- drawn in favour of the Director

ADDENDUM

It is notified for the information of all concerned that the number of seats or Senior Residents advertised in Admission Notice No. 16/91 which the closing date for receipt of applications is 30th April, 1991, there will be an increase of one seat in each of the subjects of Card [illegible] Plastic Surgery and Urology

O.P Sharda
REGISTRAR

Suniti Kumar Chaterjee on 'English in India'

Shivendra K. Verma *

guages in a multilingual setting form a system k. Each language in this network has a function- ined value contrastive to the function-deter- values of the other languages. A society or a nent can assign a new value to any one or more anguages in the system network in terms of its licy of language planning, but the society or nent must remember that this assignment of a ue to a language will cause a chain reaction in work. The values of the other languages in the k are bound to undergo changes". (Verma, 1986,

at is role-expansion for one language is role- ion for the other languages in contact. Role- ion, if not controlled in time, may lead to n, which in its turn may lead to language tension, and violent outbursts. The Indian linguistic learly demonstrates that attempts to further the any language (native or non-native) are con- l to be efforts to reduce the political, social, l, and economic rights of other languages" a, 1986, p.4).

notion of 'link language' or 'lingua franca' has ortant significance in a multilingual setting—it n to wider mobility, national integration, and a f mutual understanding and tolerance. It en- the languages in contact and gets enriched by (Verma, 1986, p.6).

at is important in our setting is not the number ages but the creation of an atmosphere in which mbers of a given area can (1) move easily from k language to another, (ii) and/or use two link ges simultaneously. We must note that using a nguage means functioning as a member of a which means acquiring the ability to explore the al of language or languages as social Semiotic, guage is the main channel through which a child to act as a member of a society—in and h the various social groups, the family, the neigh- od and so on—and to adopt its 'culture' its of thoughts and action, its beliefs and its values" a, 1986, p. 7).

number and hierarchical ordering of languages fer from region to region. What we must guard is getting into 'pressure-cooker syndrome', for ve pressure may blow up the entire system. ve must try to achieve is to make people realize that a multilingual and pluricultural society needs more than one language for national chohesion, cultural integration, and social and geographical mobility. Different languages have different roles to play. The mother tongue has a role; the regional language has a role; Hindi has a role; English has a role; foreign and classical languages have their roles. They are complementary, and can co-exist peacefully". (Verma, 1986, p.9).

When we examine Chatterjee's approach to the roles and functions of languages in India in terms of the framework outlined above, we get the image of a Shakespearian tragic hero experiencing an intense conflict between "to be" & "not to be", between the basic principles of socio-linguistics and the extralinguistic considerations generated by politics, between his vision of English as 'the greatest language of modern civilization' and his categorization of Hindustani as 'one of the great languages of the world'. In spite of this inner tension, he has expressed his views clearly and emphatically. "We all love the language within the orbit of which we have grown up. It is our mother-tongue or the language we use in our home, having acquired it from boyhood, that claims our first language. Our emotional fulfilment is through the mother-tongue or the child's tongue. Then come other languages for those persons whose mental and vocational activities take them outside the intimate family circle. For such people, there are one or more other languages which become in life almost as important as the mother-tongue or the home-language". (Chatterjee, 1969, p.14).

According to Chatterjee the present malaise in Indian education as well as in Indian politics is brought about by the proposal to replace English by Hindi. "The value of English in present-day India would appear to be supreme, and about this there is no ground for doubt or scepticism. What Rabindranath had always insisted upon should have been the best thing to follow in education. Give a sound education in the school through the mother-tongue to all and sundry, but keep English for those who would like to do advanced studies" (Chatterjee, 1969, p.19). To quote Haugen "the cost of re-education is not just the expense in terms of dollars and cents, but the malaise of training one's children in a medium that is not their own, and of alienation from one's own past" (Haugen, 1966, p.105).

"English", in terms of Chatterjee's perception, "has been the neutral language, and it was impartial in its service to all sections of the Indian people. Unlike any of the modern Indian languages, it did not bring any

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or, Central Institute of English and gn Languages(CIEFL), Hyderabad - 500 007.

special and undue privileges to any section of the people, which Hindi is certainly doing and wants to continue to do'. His passion for English made him come out with remarks like: "English is the Greatest Language of Modern Civilization .... "English alone and no other Indian Language, not even Sanskrit, could meet with our new type ofintellectual hunger and our eagerness for knowledge which has come to us in the modern age" (Chatterjee, 1973, p.45). We must remember that these remarks were made at a time when it was difficult to draw a sharp line marking off the language of politics from the politics of language. It is a linguistic truism to say that all human languages are equally capable of being developed for all purposes. "Languages grow and develop by being made to function in newer contexts and newer interactional networks. No language is any less qualified to be the vehicle of modern science and technology than were English and Russian some centuries ago. The linguistic repertoire of a community is derived from the range of uses that language is put to in that particular culture. A creative artist or a scientist may on occasion be impatient with his language, but he never finds his language poor and inadequate. Whenever there is an impassioned interaction between his personality and his language, his language acquires a new vigour to create new registers and also to sharpen and refine the existing registral tools. The point that I am making here is that language is a meaning potential: it is what its speakers can make it do. What a particular language is doing now is a context-governed and use-determined externalization of what it can do" (Verma, 1984, pp. 12-13). There is no evidence whatever that one language, or any one variety of a language, can be more efficient than another. An undeveloped language is a language that has not been allowed by politicians and bureaucrats to perform all the functions that a language serves and can serve in a society. English in medieval England was not a developed language, since many of the social functions of language in the community could be performed only in Latin or in French. In his inaugural address delivered at the University of Malaya on 29 December 1969, Fernando stated emphatically that "the advancement of knowledge is not the prerogative of one language alone, however influential or overwhelming it may seem. We can no longer sustain the belief that the rationalising techniques developed in English and European languages represent a goal to which South East Asian languages must necessarily aspire in full. Nor need we believe any longer that the present widespread use of English is due to any special mark of its superiority over other languages" (p.10). "Nearly all languages have at one time or another had to borrow large number of words, and to coin large number of words, in order to handle new concepts introduced by contact with other societies or by their own discoveries" (Le page, 1964, p.51).

Chatterjee does not consider English in India to be a foreign language. In his writings Chatterjee made it clear that English has virtually become dian language. It has helped to build up the nation in a new way during the present age. He always felt that "it is through English that we present-day India know ourselves — our very through reading the great classics, and philosophy, and Sufism, and Ramakrishna, Vive da, Rabindranath, Sri Aurobindo and Gandhi. alone now enables an average Indian to know about other Indian literatures and local cultures — English has opened to the whole of India (and the in addition) the treasures of Old Tamil, of Kannada Marathi, of Sikhism, of Ghalib and the Urdu Ramakrishna Paramahamsa, Vivekananda, Rabindranath and of Puran Singh" (Chatterjee, p.64). In 1956, in his Note of Dissent in the Language Commission's Report (p.281 ff) he has a variety of REASONS and arguments in favour keeping English and not forcing Hindi in its place. has asked the nation to remember the advice of Nehru: "Let us not have any hostility to English. not think that the English language in coming in the of the development of our own languages, which is for us". "Contact with English has modernised the dian languages of the present day, and that is one of points in favour of the English language, among the intellectual leaders of the people who integration" (Chatterjee, 1979, p.183). In 1960 jee considered Hindustani to be the most understood Aryan speech in the Dravidian South, ticularly in the towns and the great pilgrim- "From the point of view of numbers speaking, understanding it, Hindustani is one of the guages of the world.......Hindi or Hindustani is very great heritage for Indians of today. It is a important expression, and can become a good of Indian unity and Indian nationality. Hindi tani) is the Representative Language of India" terjee, 1960, pp.146), but he was not sure Hindustani (Hindi) can ever supplant English "as English is now not a mere national language become international, the unique vehicle of World ture". (Chatterjee, 1972, p.258).

It is interesting to note that Chatterjee has a three-language formula, but his formula is from the official one. He has said: "Let us like land and some other countries, recommend three guages as Recognised Union Languages, with full for all other languages as and when necessary. three languages are to be :

I. Sanskrit
II. English
III. Hindustani

Sanskrit is to be given the status of the Language of India, following its important

g India as a Single Nation for the last 3000
east .... Its place will be primarily for what may
l Decoration, to give the outward cachet to
dian............

sh will be legally allowed to retain a place in
k of our Administration and Education, in
and Technology, and in Commerce and In-
as it is now. Only, as far as convenient, our
as well as provincial work will be conducted not
English, but also in English and/or any Indian
e required by the people of the particular area
r part of State) ... Education upto the college
an advantageously be in the mother-tongue but
will be compulsory for those who would go in
er studies, and in the All-India Civil Services
ations. And English as now will continue to be
gnised link-language for communication among
ous States. But any other Indian language, ac-
to the convenience of the States concerned, will
right be allowed to be employed..........

are to recognise that Hindustani has a
unt importance as a Spoken Language. This is
becoming the common language in the cities of
pecially in the North, for the ordinary transac-
f life. The State is to give what may be called
ar Hindustani" only the status, and is not to insist
High-Style Sanskritic Hindi and Perso-Arabic
which will have their special places of honour as
r-tongue of peoples who accept them as their
languages or declare for them as culture-lan-
....

should accept as the third Indian Link Language
ional Importance as well of International Recog-
after Sanskrit and English, Hindustani in all its
and forms, with special honour to Sanskritic Hindi
Urdu". (Chatterjee, 1973, pp. 62-66).

s evident from these quotations that Chatterjee
favour of (i) a three-language formula, and the
ve use of (ii) three link languages, (iii) bilingual
m of instruction, and (iv) English as the First Link
age for India, side by side with the various Nation-
guages, each of them being equal in status (Chat-
, 1973, p.74). Chatterjee proposed this formula as
nly way to solve the Linguistic Problems of an
ly integrated Single Nation, multi-racial, multi-lin-
and multi-religious, that India is, and bring in
where for all a sense of a just and equitable
ership as members of the same Great Nation, with
eir diverse racial origins, languages or dialects and
ous notions or persuasions". (Chatterjee, 1973,
. Although there is no slot for the mother-tongue
three-language formula, he has emphasised its
rtance in the educational system. "The mother-
e for everybody, from the primary stage to the high
ol (or even college) stage — and English and/or
er foreign language (or languages) for the intellec-
lite or educationally advanced, who will after a full
ation pass out to give the lead to the people — this
e the only reasonable solution which has proved to
be successful" (Chatterjee, 1973, p.73).

According to Fasold, "the educational policies and practices in India will be clearer if we first have in mind the hierarchical structure of the language of India.... At the top of the structure are the two official government languages at the federal level, Hindi & English. Next come the official State languages. At the third level, we might place languages which have no official government function at the federal or state level, but are spoken by more than one million people (Bhojpuri and Magahi are two examples). Finally, there are small-group tribal languages, which not only are not recognized at either level of government, but have scant hope of receiving anything but indifference or hostility from official sources" (Fasold, 1984, p.27).

The picture that is emerging appears to be Y-shaped, representing multilingualism with diglossia: English and the official national/state language at the top symbolising H and the other languages symbolising different types of 'L'.

As a free nation we are committed to the modernization of Indian languages so that they may serve most of those functions for which we have been using English. In order to do this we should shift our focus from 'English as the main language of instruction' to 'English as one of the major 'source' languages'. English and the major Indian languages can and should coexist peacefully and play the roles effectively. These roles have to be redefined periodically in the light of the changes in the sociolinguistic and educational needs of our country.

References

Chatterjee, S.K. (1960). **Indo-Aryan & Hindi.** Calcutta, Firma KL Mukhopadhyay.

Chatterjee, S.K. (1969). **Language & Society in India** (Inaugural Address).

Chatterjee, S.K. (1972). **Select Paper I**, New Delhi, People's Publishing House.

Chatterjee, S.K. (1973). **India — A Polyglot Nation & Its Linguistic Problems.** Bombay, Mahatma Gandhi Memorial Research Centre, Hindustan Prachar Sabha.

Chatterjee, S.K. (1979). **Select Papers II**, New Delhi, People's Publishing House.

Fasold, R. (1984). **The Sociolinguistic of Society** ,Oxford, Basil Blackwell.

Fernando, L. (1970) **English, Literature, & Technology in South East Asia**, Kuala Lampur, University of Malaya.

Le Page, R.B. (1964). The National Language Question. London, Oxford University Press.

Haugen, E. (1966). "Dialect, Language, Nation" in Sociolinguistics edited by Pride and Holmes. Harmondsworth, Penguin Books, 1972

Verma, S.K. (1984). **The Changing Roles of Asian Languages : A Study in Register Creation.** Singapore, National University of Singapore.

Verma, S.K. (1986) **"Language in Education in a Multilingual Setting", in Proceedings of the 15th All-India Linguists' Conference** held at Madurai Kamaraj University, Madurai. **Journal of Higher Education** 14 (1-3); 1989.

Making University Education Entrepreneurial

M.B.A. PROGRAMME, NASIK – BYTCO INSTITUTE MODEL

S.S. Gosavi*
S.Parthasarathi**

Introduction

Economic aspects of university education in any country have become an extravagant affair for the student as well as the institution concerned. As the demand for more specialised courses in Engineering, Medicine, Arts and Management faculties multiply, the universities find it difficult to cope up with the demands. The universities in general are well entrenched with traditional courses which gobble up all the resources provided by the Government and other agencies. At the same time, the products of these traditional courses find themselves as 'fish out of the water' in the outside world when they look for employment in Government, Business or Industry. On many occasions, these students may have to learn newer techniques and 'unlearn' or 'relearn' what they have studied at the university. Leavitt calls this syndrome as "transformation from analytical to unprogrammed areas."[1] This paradoxical situation arises mostly due to :

(i) Faster changes taking place in the outside world;

(ii) Rigidity in the university decision making structure;

(iii) Limited or no interaction between universities and industries; and

(iv) Inadequate funds.

Under these circumstances, universities and affiliated colleges are not in a position to frame and provide 'Market oriented' courses incorporating the changes taking place around them. To overcome these difficulties, the universities and affiliated colleges need to be more enterprising and reasonably flexible. They have to adapt to new changes quickly without compromising on the quality of education. J.D.C.Bytco Institute of Management Studies and Research, Nasik provides a way out of this predicament.

Bytco Model

1) *Evolution and Growth :*

The Institute is a well known management institute and is situated in the western part of Maharashtra in India. "This is the first institute of management education in the mofussil parts of Maharashtra which came into existence at Nasik under the guidance and leadership of Dr. M.S.Gosavi. Since then management education has spread very rapidly in different universities in Maharashtra"[2]

As far back as in 1968, Dr. M.S. Gosavi, Principal, B.Y.K. College of Commerce, Mr.C.V.Joag, the then Chairman of Bank of Maharashtra and other industrial magnates ventured to start a two year residential M.B.A. programme in Gokhale Education Society's B.Y.K. College of Commerce, Nasik. At that time, there was no proper M.B.A. Course model available suiting to local conditions. The idea of starting full time two year M.B.A.Programme within the portals of the university was first mooted in the first international seminar organised at Udaipur in February, 1966 under the HS Aid Projects.[3] The Bytco venture went a step further and started the courses in an affiliated college without demanding any financial grant from the University or government. Today, the Bytco model with minor modifications is accepted as a standard one by many other universities and affiliated colleges. In the initial stages, the institute largely depended on the resources of its parent institution B.Y.K.College of commerce-for classrooms, library, faculty and in a way for ideas too. Now it has grown into a great edifice having its own identity in the management field and feeds back building and library facilities, seminar and research experts to its parent institution and industries. (See figure 1)

The institute has provided over 1,500 trained M.B.A. graduates till today to the industries inside and outside the country. It has trained about 500 junior level executives from industries and government/semi government organisations in and around Nasik through the evening courses like D.B.M., M.M.S., M.P.M., and D.C.M.

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e early 80's, the institute has again gone for
venture – the computer education. The
a in Computer Management (D.C.M.) course
ned in Bytco Institute. It is now a standard
of Poona University at many centres. In 1990, it
o started Master in Computer Management
.) programme of Poona University. Many stu-
ave got Ph.D. in Management from the portals
institute. Students from Nigeria, Tanzania and
ave received training in management over the

Funding Concept :

ould be borne in mind that such a development
o decades was accomplished through a self fund-
cept. The entire venture of starting management
mputer courses was carried out without demand-
funds from government or university coffer. The
fee as prescribed by the University helped to run
urses and procure books and equipment. For
ings, the Gokhale Education Society got
icent donations from Bytco Trusts, Bhikusa
sa Kshatriya and other philanthropists on account
xcellent standing in the society. The institute has
ad the opportunity of utilising UNIVAC com-
s and other facilities of Hindustan Aeronautics
Ojhar. Bank of Maharashtra has always come in
way by funding seminars and other activities from
o time. Thus through a careful optimum utilisa-
of available resources like buildings, computer
ies, library and faculty the institute has withstood
nslaught of inflation. (See figure 2). Today, the
ammes of the institute provide some funds to the
rsity through examination fees and sale of univer-
ublications. In addition, the facilities of the in-
e are now utilised by its parent institution,
tries in Nasik, professional bodies like Institute of
tered Accountants of India, Institute of Company
taries of India, Yashwantrao Chavan Maharashtra
University, All India Association of Educational
nology among others. Thus the institute stands as
xample of educational entrepreneurship with no
on government exchequer.

ontrol :

he control over quality of education is administered
ugh commissions, academic council, executive
es like senate of Gokhale Education Society and
of University of Poona. The syllabi, conduct of
nination, standard of passing and the awarding of
ees and diplomas by the University of Poona help
aintain the requisite standard and acceptance of
us courses for employment and further studies. In
tion, an indirect control is always present from the
in which the products of the institute are accepted
he outside industries. The students are exposed to
world of work in both the ways through the field visits and vacation training at the place of work and by inviting experts in the field as visiting faculty. Seminars, workshops and conferences are arranged on various topics of management including Educational Management. This helps to take stock of the working of the institute and assess critically for improvement. Since a free atmosphere is provided to the students for self development, the students themselves come out with their problems through student forums and direct interaction with the faculty to get it resolved. The Control grid explains the control structure for the institute. (See figure 3)

The linkage of the teachers with the experts in the field keeps the information updated and matching with the time. This induces new concepts in teaching methodology and overall conduct of the courses controlling thereby the quality of education imparted.

4) *Flexibility:*

The institute has the unique advantage of control from university and at the same time it has elbow room to experiment new ideas and concepts in its own campus before advocating it to others. It has developed an open channel through continuous workshops, seminars, conferences and symposia to welcome ideas from faculty and students for future ventures in education and management. While funds for such activities come from University Grants Commission, Bank or Industry, the institute does not wait for such urgent needs. It funds from its own resources on such occasions. This flexibility is unique for Bytco Institute.

Another aspect is that of interaction with professional bodies like Indian Management Association, Indian Association for Educational Technology and others without going through the rigmarole of approvals from university or state government in this respect. Thus the institute enjoys special autonomy of its own.

In addition, the institute has the privilege of availing of the guidance of the leading citizens of the city and the state through invited lectures and associating them in its various forums. It should be noted that while such guidance does not strain the financial resources of the institute, it brings in richer dividends for educational cause in abundant measure. Thus the institute has developed an economical way of choosing and utilising benefits from society and repaying it with greater returns through useful education to the younger generation in this part who otherwise would have missed it for want of opportunities. Its flexibility has enabled teachers from commerce, mathematics, economics, engineering and other fields to turn to management teaching after acquiring management qualifications and adequate training. It has also helped the executives in the industry to vent their pent up aspiration to teach while continuing with their professions.

The flexibility of the institute extends further and provides opportunities to students to take up self development activities like personality development, public relations, seminar and conference arrangement and participation in sports. The teachers are given a free hand to choose a right mixture of lectures, tutorials, group discussion sessions, case studies among others. This helps in going much beyond the mere completion of university syllabus. Finally, each student of management, computer and commerce courses is required to submit a project linked to the problems in industry or society. The objectives of the project method are:[4]

i) To make learning active, rather than passive;

ii) To provide one of the few ways in which knowledge from different disciplines can be combined;

iii) To give scope to undergraduate student's learning, originality and inventiveness; and

iv) To enable a student look deeply into a field of knowledge.

The flexibility available in the 'Restructured Courses' at the undergraduate level and its subsequent benefits are worth noting.[5]

Contribution

The Bytco Institute's contributions to higher education are varied and impact making. The important contributions are mentioned below:

1. A non-government institution that has given 1500 M.B.A.'s to the society, playing an important role as quality citizens;

2. The institution is providing M.Phil. & Ph.D. facilities in management in mofussil area. It has produced more than 12 Ph.D.'s in last 15 years;

3. The institution has project work compulsory at the undergraduate level, extended training to the faculty for making project work effective for undergraduate programme thereby giving status and meaning to degree programme in the faculty of commerce;

4. The institution has pioneered Indian Association for Management Development, Inter University Council of Business Education & Research and Maharashtra Chapter for Management Development Educational Technology and Business Research;

5. The institution has organised scores of workshops every year since inception for students as well as for staff and has encouraged and published prestigious titles in management and allied areas; and

6. The institution has supported Bachelor of Commerce programme with computer applications and systems management with 100% performance every year since the inception.

This unique and distinct achievement in the business education was acknowledged by the Chancellor of the University in 1983 and His Excellency presented a personal silver memento in recognition this yeoman services to the director Prin. M.S. who was invited for All Asia Management Conference held in Tokyo where his paper "Contribution of to Management Science" was widely acclaimed.

A Future Projection

The institute has come a long way. Taking stock the technical changes and looking to the future needs the changing times.

(1) The institute needs more full time faculty developing specialised programmes in service management and rural development. Reputed business houses financial institutions and government should provide 'one time funds' for instituting chairs of eminence such well developed quality institution;

(2) The exchange programmes of faculty universities within and outside the country will provide a new insight and realistic approach for making academic programmes more relevant;

(3) The opportunities for developing management programmes in the regional language and preparation of the course material for the same is also a need of time;

(4) The inflation has shot up all costs, more particularly in library and equipments, salary and non salary expenditure. This has put heavy burden on the finances of the institute. Hence the government block grants/UGC aid in this respect could be welcomed.

(5) The proper delegation and coordination to make the administration more efficacious is necessary teaching-learning process must be Indianised; and

(6) The syllabi needs to be updated periodically making it more rewarding and meaningful. Uniformity in the structure and core programmes at the All India level is to be achieved through All India forums which need to be made effective and activised.

Conclusion

Thanks to the pioneering efforts of Bytco Institute starting full time management course in 1968, and giving lead for widespread management education movement in different parts of the country. response to various types of business management other management courses has been so overwhelming in Maharashtra that the decade 1971-80 could really called the decade of management education Maharashtra"[7]. In 80's the institute has Entrepreneurship and Computer Education for a trend which has been widely acknowledged and accepted now.

del emphasizes the following points for creat-
eneurial image of educational institutions :

fying and establishing appropriate program-
on local need at the right time, and finding
at the appropriate time;

ding highly motivated full time and visiting
ough faculty development programmes;

ing effective linkages for making the institu-
munity institution through collaborative and
ative approach;

ducing forward and downward course struc-
ng the management programme integrated
c; and

ching the environment through effective
based on creative insight, vision and ver-

ongly feel that the model can be emulated anywhere without affecting the primary purposes or the financial availability of any university.

References

1. Gellerman, Saul W. (1970). **Motivation and Productivity;** Bombay D.B.Tarapoorwala. Pp.220
2. Gujarathi, R.J. (1990, Oct.) **Management Education in Maharashtra — A Critical Evaluation.** Paper presented at the National Seminar on Management Education for Tomorrow, Nasik, India.
3. Gosavi, M.S. (1990, Oct.) **Towards Value Based Indigenous Management Education.** Paper presented at National Seminar on Management Education for Tomorrow, Nasik, India.
4. Gosavi, M.S. (1986) **Business Education and Entrepreneurship Development.** Nasik, G.E.Society Publication. Pp.28.
5. Gosavi S.S. (1991) **University News** — Special issue — Jan. 14, 1991. Pp. 47-52.
6. Kopardekar, S.D. (1990 Dec.) **Developing Managers for the year 2001. Paper presented at the Second Regional Conference of All India Association for Educational Technology, S.M.R.K. Women's College, Nasik, India.**
7. Shejwalkar, P.C. (Dec. 90) **Svayam Prakash** Vol X, Pp. Special Issue on Business Education for Tomorrow.

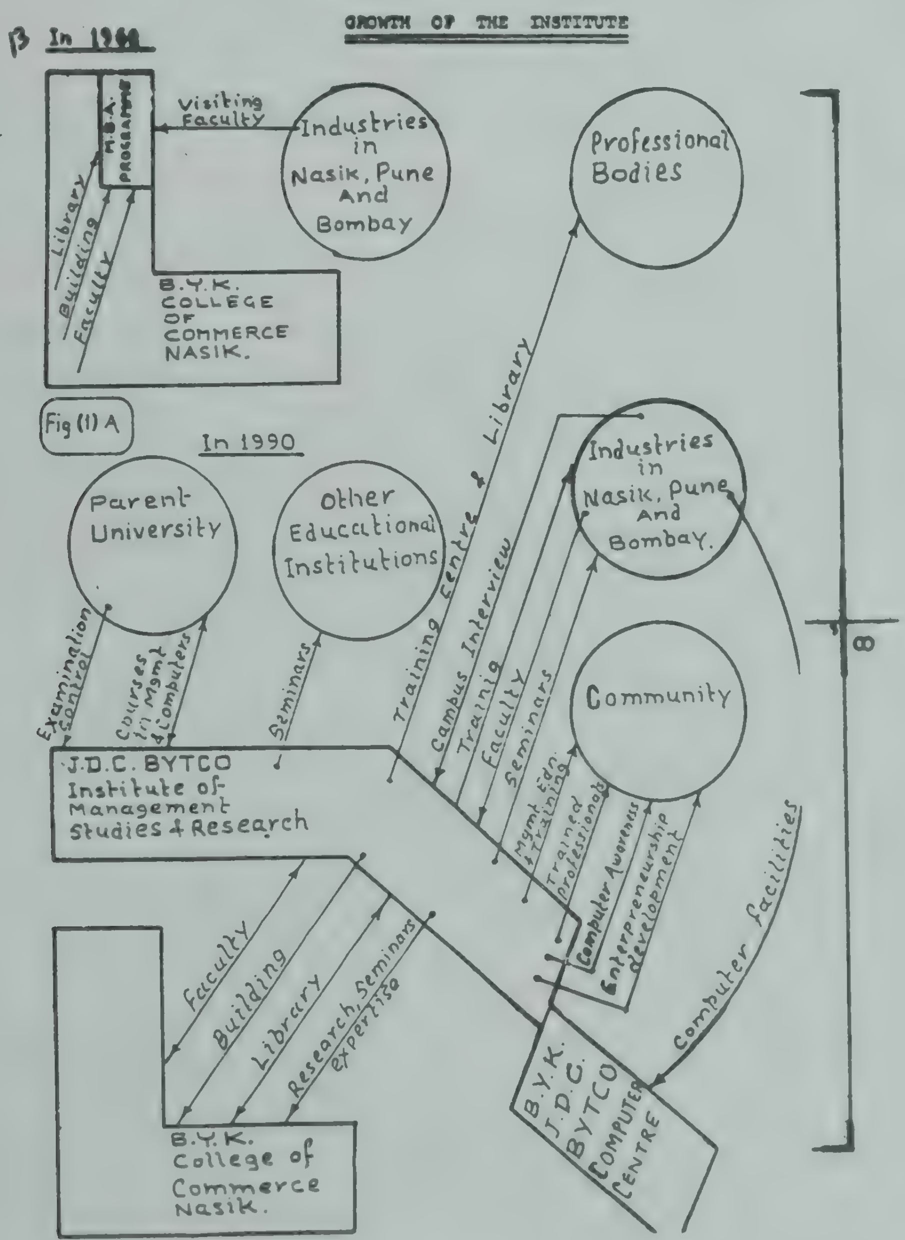
GROWTH OF THE INSTITUTE
In 1969
M.B.A. PROGRAMME
Visiting Faculty
Industries in Nasik, Pune And Bombay
Professional Bodies
Library
Building
Faculty
B.Y.K. COLLEGE OF COMMERCE NASIK.
Fig (1) A
In 1990
Parent University
Other Educational Institutions
Industries in Nasik, Pune And Bombay.
Community
Examination Control
Courses in Mgmt & Computers
Seminars
Training Centre & Library
Campus Interview
Trainig
Faculty
Seminars
Mgmt. Edn. & Training
Trained professionals
Computer Awareness
Enterpreneurship development
Computer facilities
J.D.C. BYTCO Institute of Management Studies & Research
Faculty
Building
Library
Research, Seminars expertise
B.Y.K. College of Commerce Nasik.
B.Y.K. J.D.C. BYTCO COMPUTER CENTRE
∞

Fig 1

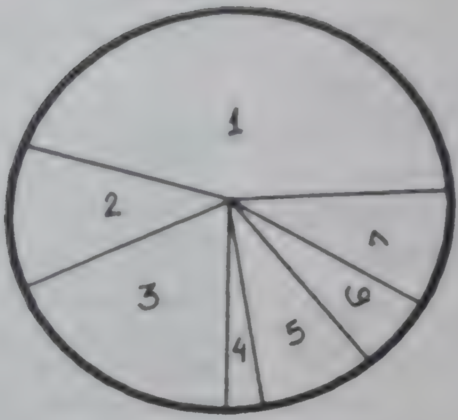

Fig 2

1) TUTION FEES	45%
2) INDUSTRIES	10%
3) DONATIONS	25%
4) GOVERNMENT	02%
5) INSTITUTIONS	05%
6) U G C	03%
7) CONRIBUTION FROM PAST STUDENTS	10%

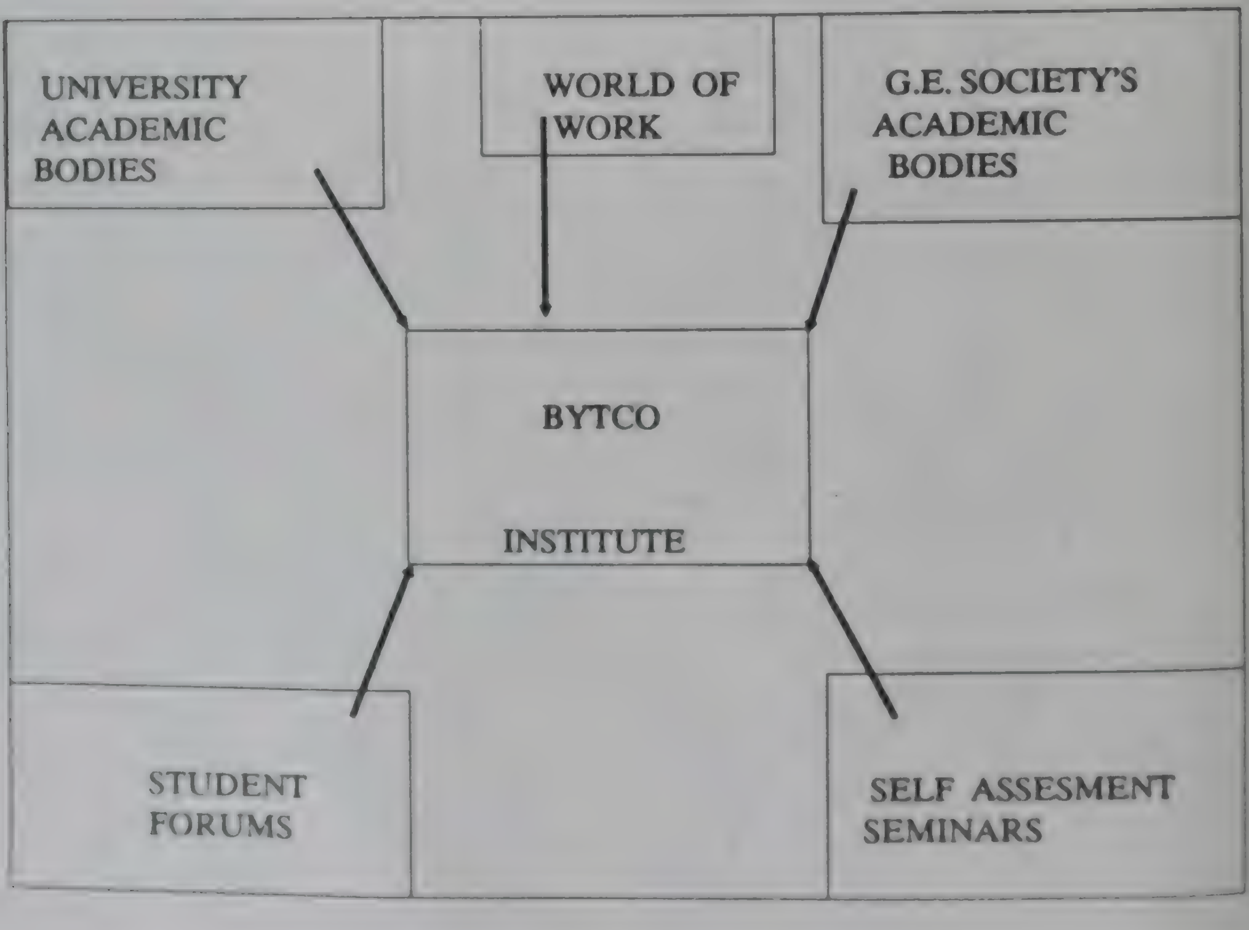
UNIVERSITY ACADEMIC BODIES
WORLD OF WORK
G.E. SOCIETY'S ACADEMIC BODIES
BYTCO
INSTITUTE
STUDENT FORUMS
SELF ASSESMENT SEMINARS

Fig 3

UNIVERSITY OF HYDERABAD

(Central University Established under an Act of Parliament)

P.O. Central University, Hyderabad 500 134

ADMISSION ANNOUNCEMENT 1991 - 92

niversity will hold entrance examinations from 24th June
y, 1991 for admission to M.A., M.Sc., M.P.A., M.F.A., (4
), P.G. Diploma (2 semesters), M.C.A. (6 semesters) ,
urses (2 semesters), M.Tech course (3 semesters) and Ph.D.
nes as detailed below:

OL OF HUMANITIES

M.Phil. and Ph.D. in English, Philosophy, Hindi, Telugu,
d Applied Linguistics; (ii) M.Phil. and Ph.D. in Comparative
re.

OL OF SOCIAL SCIENCES

M.Phil. and Ph.D. in Economics, History, Political Science,
gy and Anthropology; (ii) M.Phil. and Ph.D. in Regional

OOL OF CHEMISTRY

(ii) M.Phil. Chemistry and Chemical Education (preferably
rvice candidates); (iii) Ph.D.

OOL OF LIFE SCIENCES

. Life Sciences (Biochemistry, Plant Sciences, Animal Scien-
M.Sc. Biotechnology; iii) M.Phil. Life Sciences; iv) Ph.D. Life
es.

HOOL OF MATHEMATICS & COMPUTER/INFORMA-
ON SCIENCES

thematics: M.Sc., M.Phil. and Ph.D. in Mathematics, Applied
ematics, Statistics-Operations Research.

mputer/Information Sciences

CA; (ii) DCA; (iii) M.Tech. in Computer Science/Artificial
igence and Robotics; (iv) Ph.D. in Computer/Information
ces.

HOOL OF PHYSICS

Sc. (ii) M.Phil. in Physics; Material Science and Modern Op-
aser Physics, (iii) Ph.D. Physics.

ROJINI NAIDU SCHOOL OF PERFORMING ARTS, FINE
RTS AND COMMUNICATION

aster's Degree in Performing Arts (Dance and Theatre Arts); ii)
ter's Degree in Fine Arts (Painting); (iii) M.A. in Communica-
(Audio-Visual Media); iv) P.G. Diploma in Acting (evening
se); v) Ph.D. in performing Arts (Dance and Theatre Arts).

TRANCE EXAMINATIONS Admissions are made on All India
s in order of merit taking into consideration the past academic
rd and performance of the candidates at written/oral test as
scribed in the Prospectus for 1991-92.

r M.A., M.Sc., MCA, DCA/MPA, MFA & PG. Diploma in Acting

e written examinations will be held between 24th June and 28th
e 1991 at Ahemdabad, Bangalore, Bhopal, Bhubaneswar, Calcut-
Cochin, Delhi, Hyderabad, Madras, Pune, Tirupati, Vijayawada
d Waltair. The University reserves the right to cancel any of these
ntres, if the total number of eligible candidates is less than 100 at
at centre. Candidates will have to appear for these examinations
their own expense.

For M.Tech., M.Phil and Ph.D. Programmes.

he written examinations and interviews will be held only at
YDERABAD between 2nd July and 6th July, 1991. Candidates
tending the test for these programmes will be eligible for reimbur-
ement of **II Class Railway Fare** for the distance exceeding 300 KMs
ach way as per the rules detailed in the Prospectus.

ESERVATION OF SEATS

each course, 15% and 7.5% of the seats are reserved for SC and ST candidates respectively with a provision for interchangeability wherever necessary. 3% of the seats are reserved for physically handicapped candidates. Relaxation in the minimum percentage of marks required for admission is also provided for these categories in each course. Weightage of 3% out of the total 100 maximum marks will be given for excellence in Sports and Cultural activities. For admission of foreign students, please refer to the relevant provisions in the Prospectus.

ELIGIBILITY

Detailed information regarding minimum qualifications and other requirements for various courses is given in the Prospectus. Candidates who have graduated under the 10+2+3 system of education alone are eligible to apply. Candidates who have graduated under the 10+2+2 system of education are eligible to apply only if they have successfully completed one year bridge course as per UGC guidelines. Candidates whose results of the qualifying degree examination are awaited and also those who are due to appear for the final examination of the qualifying degree before the dates of Entrance Examinations are also eligible. They must, however, submit the results of the final examination not later than 31st August, 1991, failing which provisional admission, if granted, will stand cancelled automatically.

HOW TO APPLY

Copies of the Prospectus for 1991-92 containing detailed instructions, eligibility criteria for admission to each course/programme and Application Forms can be obtained:

In Person: from 01.05.1991 onwards either from the Academic Section, Administration Building in the University Campus, Gachibowli, Hyderabad 500 134 or from "The Golden Threshold" premises at Nampally Station Road, Hyderabad 500 001, against cash payment of Rs.15/- for the first set of one Application Form and Prospectus and Rs.5/- for each additional Application Form.

BY POST : from the Deputy Registrar (Acad. & Exams.), University of Hyderabad, Central University P.O., Hyderabad 500 134 by sending (a) Requisition, (b) One Self addressed Slip, (c) Crossed Demand Draft for Rs.20/- drawn in favour of the Registrar, University of Hyderabad, on State Bank of India or on Andhra Bank or any nationalised Bank at Hyderabad for the first set of one Application Form and Prospectus and Rs.5/- for each additional Applications Form.

NOTE: A separate application is required for each course. However, for the following courses one application for each set of courses as mentioned below is sufficient:

i) M.Sc. Mathematics (Applied Mathematics, Mathematics, Statistics-OR); ii) M.Sc. Biotechnology and M.Sc. Life Sciences (Biochemistry, Plant Sciences, Animal Sciences); iii) MCA and DCA; iv) M.Tech (Computer Sciences, Artificial Intelligence & Robotics); v) M.Phil Mathematics (Applied Mathematics, Mathematics, Statistics-OR); vi) M.Phil in Physics, Material Science, Modern Optics/Laser Physics); vii) M.Phil in Chemistry/Chemical Education;

Financial assistance may be available. For details refer to Prospectus for 1991-92.

Last date for receiving requests for issue of Application Forms by post	**14.05.91** **(Tuesday)**
Last Date for receiving completed Application Forms	**24.05.1991** **(Friday)**

The University will not be responsible for any postal delay. Candidates are therefore advised to apply well in time.

Hyderabad
19th April, 1991

P. Murali Krishna
REGISTRAR

A Pyramid Upside Down

"Our education system is like a pyramid upside down without a strong base. While higher and professional education gets top priority, elementary or primary education is orphaned for lack of funds and due to the demands of vested interests. We train engineers and doctors who, unmindful of their duty to their country, escape to other lands in search of fresh fields and pastures new. The growth and development of English medium schools, and growing demand for English medium Nursery Schools only show that Macaulay's objective, condemned superficially and universally is being implemented successfully by the people," said Padmabhushan Smt. Lakshmi N. Menon, Former Minister of State for External Affairs, Govt. of India, while delivering the Convocation Address at the fourth annual convocation of Mother Teresa Women's University, Madras. Excerpts

CONVOCATION

We are living in a rapidly developing age of reason, science and technology which beckons us to be alert and alive, enlarge our vision acquire knowledge and at the same time develop not arrogance of scholarship but the humility of Newton who, a great scientist of his time could and would say that he was like a boy gathering pebbles on the sea shore, while the vast sea of knowledge, yet undiscovered stretches before him. While knowledge enlarges our vision, it should also help us develop humility which alone will help to develop ourselves.

Despite the remarkable achievements to our credit in the field of philosophy, science and arts as a nation we are backward; we are not only tradition-bound to an astonishing degree, without any discrimination we tolerate social evils in the name of religion, encourage superstitions which stultify reason and certainly harm our movement forward to progress in all fields of development. Our civilisation as Nehru characterised it is like a palimpsest combining old and new, continuously adding, conserving everything not necessary, abandoning little. Hence our difficulty. The best example is our education. It is a continuous and unregulated growth from Wood's Dispatch to Acharya Ramamurthi's perspectives – the route is littered with reports, committees, commissions and missions, which add to the confusion and vagueness of our objectives and programmes. It is true we have a rich heritage, our sages and thinkers from time immemorial have repeatedly glorified the importance of education and the need to acquire knowledge and improve knowledge which will differentiate man from the beast. But let us admit that we have consistently ignored their warning and exhortations in our anxiety to reach the goal ignoring the warnings. Every attempt at reorganisation has create
problems. We cannot
problems by creating
problems many encouraging
gestions by expert commission
committees have gone unheede
partially considered or they
the desert sands of our natura
inborn aversion to change. Th
plementation of the three langu
formula proclaimed years ago,
to be made universal. The chara
of our education system is vario
described as pupil oriented,
oriented, craft-oriented and mo
oriented etc. – All these
submerged in the existing sys
unknown and unhonoured. S
changes as we tend to accept co
to be definite and clear cut; medi
of instruction, variety of second
education, open, autonomous a
deemed university, all togeth
make a buzzing confusion.

Our education system is lik
pyramid upside down withou
strong base. While higher a
professional education gets to
priority, elementary or prima
education is orphaned for lack
funds and due to the demands
vested interests. We train engine
and doctors who, unmindful of th
duty to their country, escape t
other lands in search of fresh fie
and pastures new. The growth a
development of English mediu
schools, and growing demand fo
English medium Nursery Schoo
only show that Macaulay's objecti
condemned superficially a
universally is being implemente
successfully by the people. Take th
instance of article 45 of the constitu
tion which promises universal com
pulsory primary education fo
children of 6-14 in 10 years. It i
really not a difficult thing when
limited number of people cou
have been dealt with at a time whe
the euphoria of freedom had
gripped the nation. That resolution
is 31 years old and the latest cens

nly show that hell is paved
d intentions.

the nation literacy rate is
r of pride for anybody the
teracy rate will set the Gan-
re. Beginning with a 0.6%
after nearly 90 years it has
10% increase from 24.88%
It is amazing that any one
ed about the progress of the
can be so jubilant. The
s fantastic to say the least.
sus commissioner says that
uld be satisfied that the
s while it is 8% for men,
have registered 10%.
ber also that among the 22
ountries India has the uni-
sfaction of being the lowest
st.

her very interesting feature
he prescribed age range in
dispensation begins from 7
This would automatically
he percentage of literacy.
rdiness in fulfilling the con-
nal pledge is unpardonable
attempts to educate 'our
s' – the electorate, began
okhale in the early years of
ntury. When his elementary
on bill was thrown out by the
members of the Viceroy's
the idea was persistently
on by almost all the thinking
in the country. I would like
ntion a few names, Ram
n Roy, Eswar Chandra
agar, Swami Vivekananda,
ma Gandhi and dozens of
all through the years. "Give
ducation and the Indian
will solve her problems",
vami Vivekananda. Gandhiji
2 decades after Swami
nanda boldly said "Mass il-
y is a sin and shame (1922). In
here is no difference of
n in the matter of female
ion or education as such. I
d that Nehru and Azad were
g an adult education centre in
before independence as a
of combating illiteracy. Un-
tely in the last phase of our national struggle, the political objective took precedence over everything else.

Today inspite of promises and exhortations, there is no sign of a national upheaval to eradicate illiteracy, much less for female illiteracy. Since the Teheran declaration in 1975, adult education was given some place in our educational endeavours, consistently not being a part of our national endeavour in the field of education, the question is already diluted with various names, adult education, functional literacy, non formal education, etc. each adding to the existing vagueness and confusion.

Although the Census Commissioner expressed mild satisfaction at the 10% growth in female literacy as against 8% in male literacy I am not happy even for Tamil Nadu or Kerala claiming a higher percentage. We have to admit that illiteracy among people generally and among women is appalling. We bend our heads in shame when we are told that other Asian countries, and those in South America, and even Africa which began with greater handicap have since independence achieved nearly total literacy by various methods suited to their countries. We have failed miserâbly owing to our indifference.

The strange part is that the slowness of development is attributed to mass illiteracy specially women's illiteracy. Yet very little is done to meet the challenge. It is highlighted by the Census Commissioner that there is positive correlation between literacy and population growth. In those states where literacy rate has increased appreciably there has been a perceptible decline in the rate of population growth. Shouldn't this convince and compel any intelligent administration to reduce their allocations to family planning and use the crores for the eradication of illiteracy among women in India.

Besides the well known tardiness of the government the greatest obstacle to women's literacy is of course, men, as in any other country. There are, of course, men who have championed, encouraged the cause of women, and fought for their rights, given them every encouragement to assert themselves. They are few and far between and indeed they are the salt of the earth. I have in my mind the generality of men who will do everything on the pretext for liberating women except 'liberate' them. I am reminded of Tolstoy who described the Russian landlord as one who will do everything for the serf except get off his back. Protective laws, propaganda materials are produced in plenty with national and international resources. Laws with amendment from time to time are passed giving facilities for women. They adorn the libraries of various departments. Some of them seldom see the light of day – because women, the beneficiaries, do not know how to read them. Changes in inheritance laws, antidowry enactments, child marriage restraint acts pass unnoticed in the same way for the same reason – illiteracy.

The funds allocated for higher and professional education are vast compared to the meagre sums given for primary education. The UGC estimate of expense is as follows: B.A. & B.Sc. Rs.8-10 thousand, Medicine & Engineering Rs.25-30 thousand. It is estimated that the amount spent to produce a graduate will be enough to give primary education to 88 children, various arguments, all fallacious to be sure, are adduced to prove the impracticability of introducing compulsion. We are a democracy and individual freedom should be respected even if education is necessary.

Let me assure you that ideas, however noble, are not ends in themselves. It is their ability to solve world problems which give them validity. When I think of our arguments for not introducing compulsion as violating human freedom I am reminded what Peter the great, the Czar of Russia said in 1723 which seems relevant. Said he "Our people are like children about their learning. They will not learn the alphabet until they are forced by their master. At first they complain but when they learn they are thankful".

Today there is an upsurge of enthusiasm for the eradication of illiteracy and every day we are told by the media whole areas, villages and districts have become totally literate. I have told you at the beginning that I am a teacher by training and inclination. I am disinclined to believe the cooked reports and doctored statistics. I understand that this university after the recommendation of the expert committee had decided to devote itself to postgraduate work and research. I am glad and congratulate you but I have one comment which you can reject if unpalatable. Hundreds of research papers are produced all over the country, in universities, institutes and other institutions called centres. You also contribute to this noble venture. To know that a problem exists is the first step. The character and cause of the problem, if delved deep into, must enable us to solve the problem by finding solutions. Almost all the problems facing us today have their social implications even if they are not directly social problems. Even political problems have their social relationship. If that is so, research work should not be isolated studies but lead to social action. Change in inheritance laws, social legislation of all kinds have had so far very little impact on our attitudes and lives. It is not enough to expand our knowledge, it is very necessary and important, that the findings of our research should lead to social action. I have heard on good authority that hundreds of research papers are enjoying their rest in official cupboards and not utilised properly. If not utilised it is a waste which the country can ill afford. With my very little limited experience I can say that some times, if not often the subject for research is compelled by the need to get a degree rather than to solve a social problem or in response to some urgent need. Allow me to deal with one such problem which if successfully executed will be a national service. I am thinking of dropout of girls. It is universal, the causes may not be the same, methods used to prevent it also may be slightly different. It may be mainly poverty or social customs or indifference of parents or the discriminatory practices etc. If it is poverty what should be done? Provision of mid-day meal, providing facilities to the mother so that she need not have the girl at home, during the school going age, etc. Invariably a thesis is written because a Ph.D. is necessary for promotion. I have some instances based on personal experience which are irrelevant unless research leads to some useful action it is a waste of time.

Your motto 'Towards equal status' intrigued me, not a little. Equal status with whom? Certainly we do not want equal status with men, although men and women are equal partners in progress. Unfortunately, we are still cherishing the idea that to be equal we have to be like men in all fields of activities. Power and responsibility, women will have, must have and share with men certainly on terms of equality. If today women consider themselves, enslaved, oppressed, their liberation should come by developing higher competence through education. The liberation, let me repeat, should come from themselves which reminds me of Shakespeares lines "The fault dear Brutus is not in our stars. But in ourselves: if we are underlings". It is not enough that we are concerned, we should develop competence, for conviction without competence is less than liberation. If the future of India rests on the lap of women they should be allowed to develop competence through education, which I am sure this institution is striving to do. I cannot conclude this brief talk better than by quoting Buddha's parting message to his disciples:

> *Be ye lamps unto yourselves*
>
> *Do not depend on any external help*
>
> *Rely on your selves*
>
> *The more you depend on yourself*
>
> *The more will your potentialities be released.*

Communication

Academic Freedom in Colleges

Please refer to the article "Academic Freedom in Government Colleges : A Case Study of Government College, Daman" by Narayan Prasad Sharma in the *University News* dated 25th March 1919. In his article, Sharma laments the lack of academic freedom in his College in the areas of postgraduate teaching, participation in orientation courses, purchase of books for library, participation in seminars/symposia etc. In my College which incidentally is affiliated to the same South Gujarat University Surat, as Sharma's College, and is a non-government college, the teachers have full freedom in all areas but still there is no significant achievement and, to boot, the teachers are not happy. In Sharma's College where,according to him there is full academic freedom in the area of undergraduate teaching, can we presume that the teachers are giving their best or shall we ask his Principal?

S Kumar
Principal
Narmada College of Science
Technology & Commerce
Zadeshwar
Bharuch(Gujarat) - 39

CAMPUS NEWS

ast Zone Vice Chancellors Meet

e East Zone Vice Chancellors erence 1991 was held at ra University, Agartala on 20, 1991. Thirty Vice Chan- rs from the Eastern zone region ded including four from North- rn Hill areas.

he conference was inaugurated hri K.B. Raghunath Reddy, ernor of Tripura and Chancel- f the University. In his address Reddy said that the problems g faced by our universities had national and regional dimen- s and to overcome these blems the universities had to acreative role in bringing about al, economic and cultural trans- nation in accordance with na- al goals as expressed in our stitution.

xpressing his concern over the sion of autonomy and deteriorat- academic standards, the gover- said, "serious introspection on part of authorities of the univer- es and in particular the Vice- ancellors is called for to bring out basic improvements in their cting."

Mr. Reddy emphasised on 'Right Work' and 'Education for all' and d that to achieve these goals we d to plan every aspect of develop- nt. In this regard, he felt, educa- nal institutions had a great role to y in training people for produc- e jobs. The Universities might ve to take a lead in not only em- asising on the vocational and chnical aspects of education but also in setting up necessary institutions for that purpose. We needed technically trained manpower to attend to the needs of rural areas to help the servicing of infrastructure, he opined.

Mr. Reddy concluded by quoting Nehru, "A nation cannot progress if it merely imitates its ancestors; what builds a nation is creative, inventive and vital activity. I seek the creative mind. How do the creative minds come to be." What an university can do is "to provide an environment in which creativeness and vitality of mind and body have a place and can prosper."

The State Chief Minister, Shri Sudhir Ranjan Mazumdar observed, " University's growth, of course, does not depend on financial resources alone. There must be the required inputs of innvoative and creative ideas and imaginations for formulating effective and appropriate academic programmes, courses of studies and curricula."

Shri A.K. Kar, State Education Minister, in his address, referred to numerous problems in management of higher education and expected the universities to find out satisfactory solutions through serious deliberations on such matters.

Shri Kar stressed on (i) adoption of redesigned courses relevant to our modern-day society; (ii) reform in examination system; (iii) a uniform date of commencement of academic sessions; (iv) formula of "Expert-teacher-Exchange Programme"; infrastructural facilities in autonomous colleges; (v) university-government relationship with regard to various aspects of management; and (vi) planning programme of higher education in the state.

Certain issues relating to the North-eastern India were considered and appropriate decisions taken after due deliberation. Amongst such issues were:

i) The pattern of funding for development of higher education in North-eastern region and the role of the University Grants Commission and the North Eastern Council therein;

ii) Modalities of attracting outstanding teachers as Visiting Professors from various parts of the country, for improving the academic standards in the universities of the North-eastern hill area;

iii) Creation of few scholarships by each university for students from other universities, with a view to increase students mobility and promote national integration;

iv) Inclusion of Oriental (Sanskrit) colleges for registration under Section 2 (f) of the UGC Act for being declared eligible for receiving UGC financial assistance; and

v) Improvement of teaching and research in agricultural universities in the areas of Bio-technology, Environmental Science and Systems approach.

The conference was a great success considering the large participation of Vice-Chancellors from the region. The Chancellor, the Chief Minister and the Education Minister extended all their cooperation and support. The Vice-Chancellor Prof. J.B. Ganguly and his staff did a magnificent job in organising the conference which received all-round appreciation.

Diploma in Rural Development

The Indira Gandhi National Open University proposes to offer from January 1992 a Diploma Programme in Rural Development to meet the growing needs for trained manpower in rural India. The Programme will have a multi-media instruction package, adapted to the mode of distance education and use modern educational and communication technology. It has been so designed as to give an integrated view of all the aspects of rural development. It will also help students gain knowledge, understanding and skills in planning, project formulation, monitoring and programme implementation.

The basic qualification for admission to the programme is a Bachelor's degree. Preference will be given to those already working in rural development programmes. Persons who do not have the minimum qualification may however be considered if they have at least five years of experience as an Extension Officer in rural work or a rural development functionary of equivalent rank.

The programme consists of five courses i.e. (i) Rural Development: Indian Context; (ii) Rural Development Programmes; (iii) Rural Development Planning and Management; (iv) Rural Social Development; and (v) Project Work

This will be a 30 credit programme of study.

The five courses in the programme can be completed in one or more years, subject to a maximum of four years. In case one cannot or does not wish to complete the programme, he/she will receive a certificate for courses successfully completed.

Further details about the programme may be obtained from the Director, School of Continuing Education, Indira Gandhi National Open University, Maidan Garhi,New Delhi-110030

Orientation Course at Kurukshetra University

Professor D.P. Barooah, Ex-Vice-Chancellor, Gauhati University, Guwahati recently inaugurated a 4-week Orientation Course organised by the Academic Staff College of Kurukshetra University. In his inaugural University address, Prof. Barooah said, "The schemes of orientation and refresher courses under the Academic Staff College (ASC) lie within the broad framework of continuing education and it is to the credit of the NPE 1986 that the UGC was motivated to launch a commendable scheme applicable to the new entrants to the college and university teaching profession, and also to in-service teachers in the forms of orientation course and refresher course respectively. Incidentally, as far as career advancement under the revised pay scales and other measures for maintenance of standards are concerned, the requirements include a good record in teaching and/or participation in extension activities, research degree or an equivalent published work besides inevitable participation in two refresher courses/summer institutes; and newly recruited lecturers could ordinarily be confirmed only after he/she has completed an appropriate short-term orientation course coupled with satisfactory performance appraisal reports."

"Teaching and research is the very air which a teacher breathes or ought to breathe. Maintenance of standards depends principally on students and teachers, their commitment to learning and their intolerance of utter mediocrity. This only creates the right type of academic atmosphere assisted by necessary regulatory measures. The need for curriculum reform has been well recognised. It is research that leads on to changing the content and structure of knowledge and new knowledge could grow out of research. A university is much more than a degree awarding institution. Imparting of instruction gains through research, and generation and advancement of knowledge is an essential part of the mosaic of education at the highest levels. A teacher's commitment to teaching and learning could and ought to be carried to new heights of endeavour through research."

"There appears to be a three-sided competitive struggle in these days among the universities, the industry and the government itself for research and development work (R&D). While there is value in R & D work of non-university agencies, the universities are the proper institutions for basic research because they initially produce men and women of skill and hence, they deserve all support from funding agencies."

"When teachers are imbued with the desire to consider learning imaginatively and are ever ready to subject existing knowledge to critical enquiry, it is teaching that gains and is enriched by research. Research improves the content of what is taught and hence, teaching is itself a kind of research. Research makes all the difference between common learning *per se* and what is called lasting learning."

"Competent scholars are of the opinion that teacher education should normally have the following

nents: general education,
c subject mastery, strong
ogical background (includ-
cational psychology), and a
ably good command of in-
onal methods and techniques
broad framework of these
While there is no scope for
ypes in methods and techni-
innovations are encouraged.
e variety of training modules
be there and the UGC's
e provides enough scope for
althy exercise. It is welcome
microteaching has been
led as a desirable training
que, comprising as it does
ical instructional training,
valuation of teaching session,
nitiating microsituations of
em- solving and group or
rative research in the class-
".

eacher education or teacher
opment is usually considered
ee phases: preservice, induc-
for the beginning teachers, our
tation course), and in service
refresher course). Orientation
efresher courses could handle
roblem of possible 'recyclage',
ed as intensive training action
et situations when critical gaps
in the teachers' education aris-
rom a teacher's knowledge of a
ct becoming suddenly obsolete
to massive introduction of cer-
new subjects."

The ASC scheme provides the
dation for continuing profes-
al education for teachers at the
er level. It is a recognition of
systemic need for social ac-
ntability of the teaching profes-
."

rofessor K.M. Marimuthu,
e-Chancellor, Bharathiar
iversity, Coimbatore, who
ided, emphasised the relation-
of love and affection between
students & teachers as the most
erful weapon than anything else and a key to the success of teachers in their profession. He also emphasised upon the teachers to check their students against drug abuses by applying the concept of love and affection in their dealings.

SAARC Workshop on Distance Education

A SAARC workshop on distance education and open learning system organised recently by the National Open School in New Delhi has recommended setting up of centres for open learning which would act as catalytic agents in spreading education in the countries of the region. Delivering the valedictory address at the workshop, the Indira Gandhi National Open University Vice-Chancellor, Dr V.C. Kulandai Swamy, said distance education had become inevitable because the demand for education far exceeded the capacity of the formal system. He said distance education should strive constantly for quality and its certification should be accepted within a country first and then between the countries of the SAARC region.

Among the major recommendations of the workshop was the developments of distance education and open learning as a fullfledged system.

Since the seven countries of the SAARC region to a large extent share a common heritage, the delegates felt that the time had come to develop elements of a core curricula in selected subjects, such as mathematics, science and social sciences, without in any way infringing on areas of autonomy.

An innovative recommendation of workshop was to make available a provision for transfer of credits to enable students to pursue studies after a lapse of time or in other institutions, either open or formal, either in his own country or in other countries of the SAARC region. For this there should be commonality in a core-curriculum and instructional as well as evaluation procedures which would permit a suitable credit system to be evolved.

Science Information Bank

The Council for Scientific and Industrial Research (CSIR) is reported to have created a database housing information on science and technology for use by the mass media. The database, called 'quick access information system' can be tapped at the CSIR headquarters located at New Delhi or at any of a group of laboratories selected as nodal points for information dissemination.

The system will store information on scientific projects and the social and economic impacts of specific research projects. Biodata of scientists involved in the projects will also be available on the database.

This system will help science writers in the country overcome some of the constraints they currently face. One constraint has been the non-availability at a central point of information about scientific activities under way in national laboratories.

Some 21 scientific topics will be covered on the system.

National Seminar on Taxation & Commerce

The Post-Graduate Extension Centre of Commerce, Salem, University of Madras recently conducted the National Seminar on 'Taxation and Commerce'. The

Seminar was jointly sponsored by University Liaison Committee of the Institute of Chartered Accountants of India, New Delhi. In his inaugural address Shri I. Sadasiva Gupta, Chairman, The Lakshmi Vilas Bank Ltd, highlighted the attitudinal deficiency syndrome prevailing in Banks and exhorted the participants to suggest measures to bring about attitudinal upgradation and work ethos. The Seminar also discussed in its first technical session papers on 'Commerce Education: In Retrospect and Prospect', 'Human Resources Accounting', 'Accounting Standards and Conventions' and 'New Assessment Procedures under Direct Tax Laws'. In the Brain Trust session that followed 33 major questions were convincingly answered. As many as 256 participants took part in the deliberations of the seminar.

Indian Culture in Japan

Prof. Sandip Kumar Tagore of Otemon Gakuin University, Executive Director of the Indian Culture Centre, Osaka, Japan, delivered a lecture on 'India in Japan—An Insider's View' at the School of Vedic Studies, Rabindra Bharati. He spoke on how Indian philosophical thoughts, rituals and other cultural elements are successfully blended in Japan's pragmatic way of modern life. He urged the scholars to join in upholding Indian culture abroad in a meaningful way.

Professor Pabitra Sarkar, Vice-Chancellor of Rabindra Bharati, in his presidential address, pointed out some salient features of Japanese character, viz. industriousness, interest in science and technology and sense of beauty, and decorum, to be emulated by all.

Computer Applications in Business

The UGC sponsored National Seminar on 'Computer Applications in Business : Problems and Prospects' was recently held at the Department of Management Studies, University of Madras. The Seminar was inaugurated by Dr. V. Sankara Narayanan, Director, Ramanujam Computer Centre, Anna University of Technology, Madras. Technical sessions included 13 papers on ' MIS and Database Management', 'Artificial intelligence' and 'Computer Applications in Functional Areas of Management and Decision support systems'.

Re-orientation Course for College Principals

Professor K.C. Malhotra, Vice-Chancellor of Himachal Pradesh University recently announced that the Academic Staff College of the University would conduct a re-orientation Programme for College Principals also. Presiding over the meeting of the Academic Advisory Committee of the College, Prof. Malhotra said that the Orientation course for Principals would enable them to update their knowledge of Educational Management and would go a long way in improving the functioning of their institutions.

The Vice-Chancellor said that the university proposed to start coaching classes for competitive examinations like IAS, IPS, IFS, NET, PMT and PET etc. in the Staff College with the necessary financial help from the State Government.

Prof. Malhotra stressed the need for restructuring of courses at undergraduate and post-graduate levels to make them more relevant and meaningful. He said that the institutions which offered to restructure courses in science jects would get a special gran Rs.ten lakh for purchase of paratus from the UGC.

Photochemistry, La Chemistry & Photobiolog

The Department of Inorga Chemistry, University of Madra alongwith Central Leather search Institute, Madras organis an international seminar on problems of "Photochemist Laser Chemistry and Photobiolog Fundamentals and Applicatio which was sponsored by India Photobiology Society. While delivering the keynote addres Prof. K.K. Rohatgi-Mukherje Secretary of Indian Photobiolog Society, emphasized the inter-dis ciplinary nature of the subject an its application potential in energ communication and molecula electronics. The Scientif programme of the seminar co sisted of sessions covering twe invited lectures and sixty pos presentations.

Training Programmes f University Administrato

The Association of India Universities (AIU) is preparing white paper including the prese status of the training programme for University Educational A ministrators. It is proposed to cov all the universities, autonomous or ganisations and societies which a imparting such training to Univer sity Administrators.

All such organisations and in stitutions are requested to get touch with the Secretary, Associa tion of Indian Universities, A House, 16, Kotla Marg, New Del 110002.

in Foundation Awards for 1990

Om Prakash Bhasin Foun-
or Science and Technology
ounced 1990 annual awards
outstanding scientists.

scientists are Dr Prem
, Director, IASRI, New
(Agriculture and Allied
s); Dr Indira Nath, AIIMS,
elhi and Dr Jyotirmoy Das,
Institute of Chemical Biol-
lcutta (Biotechnology); Dr
nani, Director, National
for Software Technology,
y (Electronics and Telecom-
ations); Mr N.B. Prasad
y including Atomic Energy);
. Mashelkar, Director, Na-
Chemical Laboratory, Poona
K.H. Gharda (Engineering
ransportation); Dr. B.N.
n, Director, Central Drug
ch Institute Lucknow and Dr
leria, New Delhi (Health and
al Sciences); and Dr M.A.
swamy, Indian Institute of
ce, Bangalore, (Spce and
ace).

h award carries a sum of Rs.
a memento and a citation.

Tyler Prize for Dr Swaminathan

M.S. Swaminathan, eminent
ltural scientist and presently
nan, M.S. Swaminathan Re-
Foundation, Madras is the
ipient of the 1991 Tyler prize
vironmental achievement.

tatement issued by the award
ittee said Dr Swaminathan's
c research has transformed
from the country with the
food deficit to one that could
ce enough for all its people.

Swaminathan shared this
with Dr. C. Everett Koop,
of the anti-smoking revolution in America. The $150,000 prize, a premier world award, is given for environmental science and leadership.

Winter School on Fast Reactions

Prof. P.Natarajan, Department of Inorganic Chemistry, University of Madras organized a winter school on the theme of 'Fast Reactions in Chemistry' at the Indira Gandhi Centre for Atomic Research, Kalpakkam, Inaugurated by Dr. S. Sathikh, Vice- Chancellor, University of Madras, the Winter School was benefited by state-of-the art lectures and frontiers of research demonstrations. The Winter School participants recognized the importance of studies of Fast Reactions in a concerted way and pleaded for the establishment of 'Centre for Fast Reactions' in the country after such model in University of Texas, U.S.A., both for in-depth analysis of the Fast Reactions and to bring all efforts of BARC, IACS, TIFR, IISc etc. under one common purpose.

News from Agril. Universities

Mycology & Plant Pathology Society Conference

The 3-day national sympsoium on 'Plant Rusts -- The Shifty Enemies' and the Annual Conference of the Society of Mycology and Plant Pathology were recently organised by the Department of Plant Pathology, Haryana Agricultural University at Hisar. Over 100 delegates from different parts of the country took part in this programme and deliberated on various aspects of major plant disease problems of the country.

In the symposium, the state of art in rust researches affecting various field and fruit crops were highlighted by eminent scientists. Dr. M.N.Khare, Dean, College of Agriculture, Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur delivered the presidential address. In his address, Dr. Khare spoke on factors influencing production and seed quality of lentil, He stressed the influence being exerted by plant diseases in productivity and production of quality seed. The participants presented research papers on diseases and their effective control in cereals, legume, oilseeds, fibre, fruits, vegetables, forest and mushrooms in four technical sessions.

According to Dr.R.D.Prashar, Chairman Organising Committee of the symposium and Head of the Department of Plant Pathology of HAU, internationally reputed scientist Dr. R.Prasada, one of the founders of the society, was felicitated on his 84th birth anniversary on this occasion. In the conference, two eminent scientists Dr. S.P.Raychaudhary, former Head, Division of Mycology and Plant Pathology, IARI and Dr. S.B.Mathur, Director, Danish Institute of Seed Pathology for Developing countries, Copenhagen (Denmark) were made honorary fellows of the society of Mycology and Plant Pathology for their distinguished contributions in plant pathology.

Symposium on Biotechnology

A 3-day national symposium on Biotechnology in Plant and Animal Sciences was recently held at Haryana Agricultural University, Hisar. In this symposium, the participants delivered talks on various aspects of plant and animal biotechnology and presented their work through papers. During the symposium, 4 major sessions were held on Plant biotechnology, biotechnology in animal health, biotechnology in animal production and microbial biotechnology.

Over 100 delegates from all over India took part in the symposium.

News from UGC

Countrywide Classroom Programme

Between 15th May to 21st May, 1991 the following schedule of telecast on higher education through INSAT-1D under the asupices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

1st Transmission

1.00 p.m. to 2.00 p.m.

15.5.91

"Risk of Failure"

"Indo-Roman Trade - II : Coins"

"Wars Within Us - Immunology I"

16.5.91

"Handle With Care"

"Shadow Puppetry in Kerala"

"Towards Better Spoken English - III Consonants"

17.5.91

"A Lecture by Prof. Phillip Morrison - I"

"Conserving America - Champions of Wild Life - I"

18.5.91

"Rehabilitation of Disabled Children : A Human Factor"

"Pearls and Bangles of Hyderabad"

"Artificial Intelligence & Cognitive Science"

19.5.91

No Telecast

20.5.91

"History of Inventions - II"

"Interpersonal Communication - I"

"Recycling Technology of the Future F.R.G."

21.5.91

"Palarography - A Detective Technique"

"Innovation Approach in blindness"

"Oils and FATS"

2nd Transmission

4.00 p.m. to 5.00 p.m.

15.5.91

"Cable Jointing and Termination"

"Techniques of Architectura Sketching"

"Genetics of Behaviour - I"

16.5.91

"Micrometry"

"Scintigraphy France"

"Texture of Literature - I Semantics"

17.5.91

"Fibonacci Numbers - I"

"Psychiatric Disorders - V Psychotherapy"

"Vitamin A -The Eye Factor"

18.5.91

"Understanding Cinema - XIII How Films Are Made - II"

"Daughters of Eve - I"

"Bonasai"

19.5.91

No Telecast

20.5.91

"Angular Momentum"

"Objectives of Commerce Education - III"

"Agriculture and Biotechnolog - II"

21.5.91

"Theology : The Science o Flows"

"Noise Pollution in Develop Countries"

"Medicine's New Vision - I Ultrasound"

News from Abroad

ustralian VCs for All Round Expansion

Australian Vice lors' Committee (AVCC) d on the federal govern- further expand the nation's education system. In a n higher education spend- he 1991-94 triennium, the ncellors call for more stu- ices, increased capital ex- re, higher allowances for , and more money for re- Among the 26 recommen- in the report, the most ercial proposal is for univer- be able to charge full-cost Australian students.

resent, higher education in- is can only charge foreign s full fees. The government n on universities or colleges ng local students on a full-fee Under the plan, Australians vered by Commonwealth would be allowed to enrol at ons on the same terms as s full-fee students.

lents who did not win a quota ut who wished to pay for their es would be eligible for ment allowances and other nment assistance. The e cost of a place in higher ion – at present works to A $ 10,000 a year.

report adds that the commit- uld prefer increased access ieved through additional ment funding.

fessor Ken McKinnon, presi- the committee, said that the ment needed to seriously er the demands it had made er education institutions and e them with adequate support. Higher education had been charged with producing one of the main components of the prime minister's "clever country" – its brainpower, Professor McKinnon said. But while thousands more students had been attracted to higher education by the government, this had occurred without commensurate funding.

Under the vice chancellors' proposals:

- an extra 18,000 student places would be created over the next three years;
- Spending on research would be boosted by A $35 million;
- institutions would receive extra funding to increase academic salaries and the number of postgraduates;
- a renovations grant would be reintroduced of at least A $25 million a year for the 1991-94 triennium;
- capital funding would be raised to A $300 million for the next three years.

"We have seen an increased student participation rate of 39 per cent between 1983 and 1990," Professor McKinnon said. "This has placed enormous strains on institutions which have had to expand staff and equipment rapidly."

He said Australia had to maintain and extend its research base. Without a research base of international quality, Australia would not be able to take advantage of international technology transfer, or the flow of technological innovation, information and scientific personnel.

The committee estimated that last year, about 1,500 eligible students failed to win either an Australian Postgraduate Research Award or an internal institution scholarship.

There was a danger that Australia would lose these young researchers to other countries.

Postgraduate Training Degree

Leicester University is to run the United Kingdom's first postgraduate training degree from next September.

"Education has always been seen as a suitable subject for systematic study, and there are countless schools of education," says David Ashton, co-director of Leicester's Centre for labour market studies, which will be running the course. "We intend to do the same for training."

Training has formerly been part of other courses, for example, management, development and training courses. Students will now be able to focus exclusively on training and study training practices in this country, Europe, Japan and North America. The university has already had a big response from the public sector, training and enterprise councils and international and national companies. Up to 120 students will start the course in September.

Based on continuous assessment, rather than formal examinations, students will be expected to write a 3,000 to 6,000 word assignment at the end of each module. All the students will be part-time, and the course is specifically designed so that it can be conducted through distance learning. This will enable those in the classroom, office or factory floor to learn while they work.

The course will be divided into four modules. In the first one students will look at the relationship between training and the learning process. The second will focus on training within organisations – and why it is not is some companies' interests to train their workers.

In module three students will look at how training fits into a national picture, and in particular the relationship between education, training, industrial relations and the internal relations of companies. This will build on work done at the University of Aix-Provence in France by Professors Maurice and Sellier. Students will then be in a position to compare our training system with that of other countries, he added.

Women in European Higher Education

The figures compiled by European Community's (EC) Statistical office reveal that Portugal is leading Europe in female participation in higher education, with women making up 53.8 per cent of Portuguese students. Next comes France, where half of all students are women, followed by Spain and Denmark on 49.1 per cent.

The research also shows that while women are in the majority at initial (mostly sub-degree) levels of higher education, their participation drops off radically at degree and postgraduate levels.

Britain's record of female participation has deteriorated from one of the best to one of the worst in Europe, according to the report titled Girls and Boys in Secondary and Higher Education.

In 1965, 43.5 per cent of all students in Britain were women – third lowest out of the EC's 12 member states. Only the Netherlands, at 40.3 per cent, and Germany, at 41.8 per cent, were lower. in 1975, however, Britain's rate of 41.5 per cent was beaten only by Denmark, France, Belgium and Portugal.

The report notes that the number of women students has increased in all member states. "In Spain and Greece participation by girls has made great strides forward, as has been the case, to a lesser extent, in the Netherlands, Italy and Portugal," it says.

Spain's female participation rate rose by nearly 13 per cent in the 10 years and Greece's by around 12 per cent, compared to only 2 per cent in Britain and about 1.7 per cent in Denmark.

A breakdown of female participation in subjects reveals that, despite some significant differences between states, the same courses are chosen by girls throughout Europe. These include literature and art, teaching information, documentation, medical and para medical.

Of 507,900 EC student teachers, around 353,000 are women.

English as a Second Language

The Monterey Institute of International Studies, California, USA, has introduced a Programme on use of English as a Second Language (ESL). The Program prepares students to use English effectively in American academic institutions, professional situations, and in everyday life. It combines formal language courses and content classes in friendly, personal setting.

The language classes emphasize vocabulary and grammar, and the systematic development of the fo language skills: speaking, listening, writing, and reading.

The content classes focus on particular topic, for example, current events in politics, economics, business, social trends, education literature. English language skills develop naturally and efficiently in the content classes, where students gather valuable information about American life and culture.

– The Additional Features of the Program include:

– Small class size (8-12 students

– One-to-one tutorial instruction in the ESL Learning Center

– Preparation for the TOEFL (Test of English as a Foreign Language)

– Academic writing preparation

– Class projects and field trips

– Seminars on selected topics with senior faculty members

– A Certificate at the end of each 8-weed session completed

Students from elementary through advanced levels of English proficiency can benefit from the program. At the beginning of each session students are tested, counselled, and placed so that they can undertake a program that will prove the most stimulating and appropriate for their needs.

The Institute's ESL courses are intensive, meeting for approximately 24 hours each week. There are five 8-week sessions during the year.

Further details can be obtained from the Admissions Office Monterey Institute of International Studies, 425 Van Buren Street Monterey, California 93940 USA

Unification Blues hit Berlin campuses

cation of Berlin's higher on system is raising ques- er funding and maintenance mic standards.

er education officials have ears that they will not be able it enough teaching staff and combined effect of austerity es and restructuring could detrimental to academic ds.

could well end up with West having to contribute too unification, and East Berlin ng too little," said Jurgen her, chancellor of Berlin's of Arts. He thinks that im- ents achieved at the institu- ring the past two years could in jeopardy.

owing weeks of student un- 1989, West Berlin received l aid to talking £ 21.5 million two-year period to combat owding. Mr Schleicher says e School of Alerts, which now out 5,000 students, allocated of its share of the aid amme to scientific assistant tor positions, and to innova- n course structures. Funds been made available for nomous programmes"; giving ts a considerable say in what lt with in seminars, special ammes to promote women nts and scholars, and "free s" where students are in- ted by several different ers. But Mr Schleicher ed that "if anything, the stu- accommodation situation has iorated since the 1989 nstrations".

East Berlin, there are three institutions offering arts, and music. They have a total ut 1,000 students, and concentrate largelyon musicology, aesthetics and drama theory, which is of no relevance for the School of Arts, according to Mr Schleicher. "Besides," he argues, "it would be quite appropriate for Berlin to have four academic arts institutions."

But Mr Schleicher does not agree with a continuation of art and music teacher training courses at Humboldt University. "These courses must be run by the School of Arts. We are not disputing the quality of the courses at Humboldt University. We simply think that our approach, that of educating musicians and artists who later teach, is better than Humboldts, which focuses on theoretical and pedagogical aspects."

In the music and arts sector, Mr Schleicher believes that the most serious issue of an all Berlin higher education concept is that of the jobs at stake in the East. "For instance, we can easily take on the 130 students from Humboldt University's teacher training curses. But what will happen to the lecturers?

Ulrich Steinmuller, deputy vice president of Berlin's Technical University, said higher education institutions in West Berlin had teamed up to provide tuition for students of economics from East Berlin.

French Student Social Aid Package

Student loans are to be introduced for the first time in France as part of a "social aid" package announced by the education ministry.

The package also increases the size and number of grants, although they will continue to be available to only a minority. According to President Francois Mitterr and, the £ 500 million plan meets two top government objectives, "priority for training and priority for social justice".

The new scheme is intended to meet at least partially the needs of students from less well-off families, as college intakes continue to expand rapidly with a government target of 1.8 milllion students by the end of the decade.

The £ 1,300 annual loans will be made by commercial banks and underwritten to half that value by the state, with universities and students' insurance groups expected to organise to further grarantee for the rest of the loan.

Applicants will be provided with documents from their university certifying that they are eligible and are covered by national and local guarantees.

The loans will only be made available to those who have completed their first year, in order to minimise the risk of students running up debts and failing to get a qualification.

Loans will be available for up to three years and students will have six years to pay them off, beginning one year after they graduate. The education ministry is studying a scheme whereby the students' first employers would be given incentives to pay off the loan.

Easier Visas for Academics

Astralian Higher education institution, it is reported, will be able to recruit foreign academics more easily following a government decision to ease visa restrictions. Subject to medical and security clearances, foreign academics will find procedures to obtain visas to enter Australia much simpler and easier. In return, the Austrilian Vice-Chancellors' Committee (AVCC) has undertaken to ensure that academics later found unsuitable will return to their own countries quickly, "to maintain the integrity of the immigration programme".

The president of the (AVCC), Professor Ken Mckinnon, said it was important that necessary impediments for the recruitment of academic staff from overseas be removed. Australia was facing a shortfall of 12,000 academics by 1994 and although overseas recruitment would not solve the problem, the changes in issuing visas to foreign important step towards easing the shortage.

"Australia is facing a huge shortfall in academic labour and we cannot become a clever country without high-quality academic staff," Professor McKinnon said. "There is fierce competition for academics worldwide and we must make it easier for potential staff to come here and not go elsewhere.'

Accreditation for Business Schools & Programs

The Association of Collegiate Business Schools and Programs is an accrediting body for business schools and programs in American colleges and universities. It has two separate commissions: (1) a Commission for Graduate calaureate Degree Granting Ins tions, and (2) a Commission Associate Degree Granting Ins tions. The Association proposes to establish an Inte tional Commission which w develop and administer the creditation process for colleges universities outside the U States.

Universities and colleges wis to pursue accreditation policy contact, for further details, Mr L.Green, Jr., The Association Collegiate Business Schools Programs, 6201 College Blvd, 210, Overland Park, Kansas 66

CENTRE FOR SOCIAL STUDIES SURAT

Two Week Course on

Computer Applications in Social Sciences

The Centre for Social Studies, Surat is organising two-week ICSSR sponsored course on **COMPUTE APPLICATIONS IN SOCIAL SCIENCES** from June 17 to June 29, 1991. The Course is meant for research and university teachers who are engaged in survey- based research and need to deal with analysis and process of data. This course is designed to orient the participants to the fundamentals of computer, computer process introduction of higher level languages, foundation of data processing, quantification methods, statistical techni and packages like SPSS, WORDPERFECT, DBASE etc.

We propose to select 20 participants. Travel (to and fro second class), lodging and boarding will be provi free to the selected participants. Those selected will have to deposit Rs. 100/- as earnest money which is refund only after full attendance in this course.

Individuals should apply by furnishing the following information:

1. Name; 2. Address for communication; 3. Date of birth; 4. Languages known (speak, read, write); 5. Affilia to Institution/University; 6. Present Position/designation; 7. Qualifications; 8. Discipline in which holding M.Phil/Ph.D degree with topic and area of enquiry; 9. Your survey research capability in terms of whether have studied upto the level studied/whether using or have plans to use: i) Research methodology; ii) Sur research methods, iii) Statistics; iv) Mathematics; v) Data processing techniques; vi) Computer packages prog mes; 10. Computer language known; 11. Availability of computer at your institution; 12. List of your c research projects; 13. Whether travel expenses can be borne by your institute; 14. Whether you have applied e and 15. Recommendation of the supervisor or department head (in case of Ph.D. /M.Phil students).

Completed application of interested individuals should reach the Course Director, Centre for Social St University Campus, Udhna-Magdalla Road, SURAT - 395 007 latest by **23rd May (Thursday), 1991.**

Understanding Student Unrest

P. C. Bansal*

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udhry, Pushpa. A Socio-psychological study of student Ac-
sts. Chandigarh, Publication Bureau, Panjab University,
0. Pp. XII + 211. Rs. 75.00

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ook under review examines
sonal pattern and social
und factors of students –
and non-activists – in the
up of 18-26 years. More
ally, it aims to differentiate
these two groups in terms
onality, family and environ-
variables. Activism is
ed as participation in agita-
activities and adoption of
as a means of expressing
lissatisfaction. The author
that frustration and aliena-
youth finds expression in ac-
action. It is hypothesised
ivists are having a particular
f personality make up that
edispose them to activism.
s, certain variables like
l and educational environ-
alienation, family ideology
cio-economic status – may
significant bearing on ac-

m the literature survey, it was
that student activists are high
going, social, warm-hearted
articipating traits of per-
ty. They are also high on
-go-lucky, venturesome and
thusiastic traits and are ex-
enting in life in general. But
studies do show them to
servative and conformists in their social orientation. Though found responsible, duty bound and moralistic in some studies, others find them indisciplined, impulsive and socially defiant. The activist students are not maladjusted and they are not significantly different from the non-activists in respect of mental health. However the deviations pointed out by researchers may be viewed with the perspective of their leading to keen, anxious, persistent and uninhibited pursuit of issues that they protest and agitate for. The author has updated the literature on activism.

The sample of the study consisted of 100 activists and non-activists each, postgraduate students from four universities. Activists were selected on two basis viz. snow ball technique based on personal knowledge and acquaintance, and by administration of Action scale to determine the degree of activism. The tests administered included: 16 Personality Factor questionnaire (8 variables); Ego-Identity scale; University Environment Alienation scale; Alienation general scale; Traditional Family Ideology scale ; and Socio-economic Status scale. The multiphasic personality questionnaire (9 variables) was given to 25 activists and non-activists each. For the convenience of the researchers, the scales are given in the appendices. The data was analysed by statistical techniques like t-test, chi - square test, factor analysis, and discriminant function analysis.

The study indicates that personality variables like out going and participating (Factor A) and surgency (Factor F) which includes cheerfulness and enthusiasm differentiate the two groups. In personality variable -Q 3 (indisciplined self-concept vs controlled – low Integration vs high self-concept control) and Ego Identity, differences are also significant but in favour of non-activists. In the two alienation scales also, there are significant differences between the two groups. In Traditional Family Ideology scales, non-activists have scored higher on all variables, though the differences are insignificant. In discriminant analysis, all the 16 variables when taken together discriminate between the two groups. Discriminant analysis with three models shows that model I including only 6 characteristics (variables) that is personality factor A (Reserved vs outgoing), Factor F (sobre vs happy-go-lucky), Factor H(shy vs venturesome) and Factor Q1 (conservative vs experimenting-conservative vs Radical) and Alienation University Educational Environment as well as general is as good as Model II including 11 characteristics (variables) and model III including all 16 variables.

The results of the factor analysis indicated the three of the five factors extracted in the total sample formed significant clusters with activism. These were the factors of Internal stability vs Alienation, Enthusiasm and cognitive practicability. Enthusiasm constellated with activism positively while the other two above mentioned factors constellated negatively. The comparative factor structure of the activists and non-activists is quite different. Alienation – Educational Environment and general surgency which includes cheerfulness, gay temperament and enthusiasm are the variables that have contributed

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to the factor configuration in the activist group. In the non-activist group, the focus is on consciousness, traditionalism, ego-strength and moral personality factors. Slight deviations found on Multiphasis Personality Questionnaire variables can be explained in terms of nature of their understanding and they are not due to a maladjusted structure. A summary chart of the results is given on pages 86-88.

The study has implications for teachers, administrators and the parents of the youth and students who engage in agitational activities. Generally it evokes feeling of disapproval, disgust and condemnation of elders. One emerging factor is that of need—need for recognition ego Identity—for autonomy and individuality. This calls for a judicious handling of this need. Another aspect is the desire of the student for involvement and representation in decision making bodies. Moreover, unhealthy practices are prevalent in the educational setup, their coming face to face with reality results in utter dismay. It calls for a deeper understanding of the issue.

The personality make up of the activists is that of participating, outgoing, sociable, cheerful, gay and enthusiastic one. The students may be offerred constructive avenue to channelise their energies. The family ideological background found more aligned with activists is that of democratic, liberal, less authoritarian and more accepting of impulse life nature with lesser emphasis on dichotomy of male-female roles. It could perhaps be utilised more effectively for innovative, creative and growth oriented activities. A rigid and authoritarian attitude of parents can also turn youth into reactionaries. A balanced psychological approach in rearing up and personality development of the child is stressed. A concern is shown that even non-activists have a potential of turning into activists, and adopting of agitational approach. One factor that emerged in non-activists is alienation and change. Some issues that concern them may call for change and reorganisation in the existing pattern. Moreover, the pulse of the withdrawing students has to be felt and remedial steps have to be taken. Besides catering to the needs of students coming from upper strata of society, the students from lower strata of society have also to be cared for. Among the studies suggested for further investigation are a case study approach for studying activists. Other factors of activism like political participation of the activists their parental political leanings and their value orientation ca be studied. A study of violent and extreme group of agitators to know about their being maladjusted deviant personality may help evolving remedial measures handle activists.

In sum, the book makes an tempt to understand the soc psycho-dynamics of student unre It will induce researchers to und take research in areas suggeste The reader may find the abstracts the researches given in the chap on Student Unrest in Higher Educ tion in India.

Pushpa Chaudhary has done good job and deserves complimen for her endeavour. The book wil of interest to teachers, a ministrators, researchers an general readers alike. The book moderately priced.

TATA INSTITUTE OF SOCIAL SCIENCES

(Institution Deemed to be University)

Post Box No. 8313, Deonar, Bombay-400 088

Admission Announcement for 1991-92

POST M.A. CERTIFICATE PROGRAMME IN RESEARCH METHODOLO
M.PHIL/PH.D PROGRAMME IN SOCIAL SCIENCES AND SOCIAL WORK

1. Certificate Programme in Research Methodology **(one semester full-time in the sec semester) after a Master's degree in the Social Sciences/Social Work.**
2. **M.Phil in Social Work/Social Sciences** (Full-time and and Part- time).
3. **Ph.D in Social Work/Social Sciences** (Full-time and part-time).

ELIGIBILITY:

1. Certificate Programme in Research Methodology :

Master's degree in the relevant faculty with at least 50% of the marks/grade point aver of 3.0 under the University Grants Commission 7 point grade system. SC/ST applica should have obtained 45% of the marks/or C grade, or grade point average of 2.50 un the UGC 7 point Grade system. Reservation for SC/ST: 15% for SC and 7.5% for S

2&3 M.Phil/Ph.D Programme:

Master's degree of the relevant faculty with 55% of the marks/grade point average of under the University Grants Commission 7 point grade system.

RECEIPT OF APPLICATIONS AND COMMENCEMENT OF PROGRAMMES

The applications for the Certificate Programme in Research Methodology are rece till October 12, 1991. The programme commences on November 18, 1991. The appli tion form and prospectus will be available from July 1991 on request accompanied Demand Draft for Rs.25/-.

The applications for the M.Phil/Ph.D. programme are accepted and the selection m throughout the year. The selected candidates will commence their programme soon a their selection.

Applications and prospectus are available on request accompanied by Demand Draft Rs.25/-

SCHOLARSHIPS:

Eight (UGC) Junior Research Fellowships are available for the Ph.D programme. O those who have passed the National Level Test conducted by the University Gra Commission will be considered for the award of these fellowships.

April 15, 1991 Dr. S.K. Bandyopadhyay

REGISTRAR

INDIAN SCHOOL OF MINES
DHANBAD - 826004

14001/91 Dated : 15.03.1991.

ADMISSION NOTICE - POST GRADUATE PROGRAMMES

ications are invited for admissions to the following Post Graduate programmes commencing in first week of July, 1991 at ISM a deemed ersity under the UGC Act.

(A) M. TECH (ENGINEERING DISCIPLINES)-3-SEMESTER DURATION

Discipline		**Eligibility Qualification:B. Tech or equivalent degree in**
Drilling Engineering (6 seats)	-	Mech/Prod/Min.Engg. or Mining Machinery.
Fuel Engineering (6 seats)	-	Fuel/Chem/Met/Mech/Min.Engg.
Maintenance Engg. & Tribology. (6 seats)	-	Mech/Prod/Min.Engg or Mining Machinery.
Mineral Engineering (15 seats)	-	Mech/Chem/Met/Min.Engg. or M.Sc. in Mineral processing or equivalent; M.Sc. in Applied Geology or equivalent with mathematics at B.Sc. level.
Mine planning and Design. (6 seats)	-	Mining Engg.
(*) Opencast Mining (10 seats)	-	A Min. Engg. Open cast Mining Mining Machinery. or B. Civil/Elec/Mech.Engg. with at least one year approved experience in opencast mines.

(*) For OCM programme, there will be an additional bridge semester for candidates with qualifications in Civil/Elec/Mech.Engg. Graduates of Mining Engineering, Opencast Mining and Mining Machinery may have to undergo some training in Open Cast Mines during this period, if required. One year's experience in open cast mines will be necessary for all applicants other than those with Min. Engg. Open Cast Mining & Min. Mach background.

Rock Excavation Engg. (10 seats)	-	A. Mining/Civil Engg. or Mining Machinery. or B. Mechanical Engg with one year experience in Surface Mining operation/Construction industry.
(**) Longwall Mine Mechanisation (15 seats).	-	Mech/Elec/Min.Mach/Min.Engg.

(**) Fresh graduates will have to undergo a pre-semester make-up course before being admitted to regular 3 semester M.Tech. course.

Industrial Engg and Management (15 seats)	-	Any branch of Engineering with at least six months experience in industry /reputed organisation.
) Petroleum Engg. (10 seats)	-	Chem/Mech/Pet. Engg.
) Environmental Science and Engineering. (for sponsored candidates only) (15 seats)	-	A. Mining/Civil/Mech/Chem/Pet./Mineral or any other related Engg discipline. or B. M.Sc. degree in Environmental Science/Chem/ Life Science/Geology/Geo-physics/Phy/Agriculture or any other related discipline.

(B) M.Tech (Earth Science Disciplines)-3-semester duration (6 seats each)

	Discipline.		**Eligibility Qualification.**
(1)	Mining Geophysics.	-	M.Sc/M.Sc. Tech or equivalent in Geophysics/ App Geophysics/Exploration Geophysics
(2)	Mineral Exploration	-	A M.Sc. Tech or equivalent degree in App. Geology. or B M.Sc. degree in Geology with two years field experience.
(3)	Engineering Geology	-	A and (b) as above or (B) B.Tech or equivalent degree in Civil Engineering.
(4)	Petroleum Exploration	-	M.Sc. Tech or equivalent degree in App. Geology/App.Geophysics.

NOTE:- Candidates applying for programme B (2) or (3) should also have passed in Physics or Mathematics at the graduate level.

ADMISSION TO M.TECH PROGRAMMES :-

Admissions to above programmes (A & B) shall be made from amongst those candidates who have passed GATE/NET examination wi valid scores. Candidates without GATE/NET but sponsored by the Govt/Semi Govt./Public Undertaking organisation/Universities/Privat industries of repute may also be admitted but they will not be entitled to any scholarships and other grants from the school. The candidate shall have to stay at ISM for all the three semesters for completing the course.

3. General Information :-

3.1 15% seats are reserved for Scheduled Caste and 7 1/2% for Scheduled Tribe candidates.

3.2 Other things being equal, wherever necessary, preference shall be given to sponsored candidates, sponsorship in this context means retention of lien on post and grant of suitable allowance by the concerned organisations. Applications of these candidates should carr endorsement to this effect from the employer.

3.3 Candidates called for appearing at the interview/Viva-Voce (likely to be conducted in the 3rd week of June 1991 at ISM, Dhanbad) wil have to do so at their own cost, TA/DA is not admissible.

3.4 Scholarship :- Non-sponsored candidates with valid GATE/NET scores admitted to the above programmes will be eligible for a scholarship as decided by the Govt of India/UGC for a period not exceeding the duration of the programme.

3.5 Courses where the number of students admitted falls down below four may not run. In such cases, the fees deposited by the candidates will be refunded.

4 How to apply :- Applications in prescribed forms should reach the undersigned, by 20th May, 1991 at the latest. The forms are obtainable by sending a crossed postal order for Rs. 10/- only (made payable to the Registrar, Indian School of Mines, Dhanbad - 826004 at ISM Post Office, Dhanbad) along with a self-addressed unstamped envelope of size 23 x 10 cm. The envelopes containing request for form must be superscribed "Request for PG Admission Form".

(B. N. SINHA)
DY. REGISTRAR (ACADEMIC)

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RESEARCH IN PROGRESS

A list of Research Scholars registered for Doctoral Degrees in Indian Universities

PHYSICAL SCIENCES

athematics

1. Chourasiya, Jyoti. **A study in the approximation of functions Fourier expansion.** Vikram. Dr Ashutosh Pathak, Department Mathematics, Vikram University, Ujjain.

2. Gupta, Debjani. **Some investigations in fuzzy topology.** BHU. (Mrs) Rekha Srivastava, Department of Applied Mathematics, naras Hindu University, Varanasi.

3. Pandey, Anil Kumar. **On almost contact manifolds.** BHU. S D Singh, Department of Mathematics, Banaras Hindu Univery, Varanasi.

4. Pandey, Archana. **Special functions, integral transforms and eir applications.** BHU. Dr Y N Prasad, Department of Applied athematics, Banaras Hindu University, Varanasi.

5. Raghuwanshi, Badri Prasad. **Some problems on approximan and their applications.** Vikram. Dr Premchandra, Prof, partment of Mathematics, Vikram University, Ujjain.

6. Rananjay Singh. **Geometry of red differential manifold.** IU. Dr R D S Kushwaha, Department of Mathematics, Banaras ndu University, Varanasi.

7. Singh, Bhanu Pratap. **Certain problems in general relativity d cosmology.** BHU. Dr T Singh, Department of Applied Mathetics, Banaras Hindu University, Varanasi.

8. Singh, Prem Shanker. **Flow and Hydrodynamic dispersion ough porous media.** BHU. Dr Naveen Kumar, Department of thematics, Banaras Hindu University, Varanasi.

9. Singh, Sarita. **A study of sub manifolds of various types of manifolds.** BHU. Dr (Miss) Kalpana, Department of Mathematics, Banaras Hindu University, Varanasi.

10. Singh, Sohawan. **Geometry of complex and almost complex manifolds.** BHU. Dr R D S Kushwaha, Department of Mathematics, Banaras Hindu University, Varanasi.

11. Tripathi, Padmesh. **Equations of motion of a particle in general relativity and alternative theories of gravitation.** BHU. Dr Abdus Sattar, Department of Mathematics, Banaras Hindu University, Varanasi.

12. Vinay Kumar. **Metric space .** BHU. Dr Ashok Saxena, Department of Applied Mathematics, Banaras Hindu University, Varanasi.

13. Vishwakarma, Shambhu Nath. **Multivariable H and I functions and their applications.** BHU. Dr Y N Prasad, Department of Applied Mathematics, Banaras Hindu University, Varanasi.

Statistics

1. Agrawal, Rekha. **Some inferential procedures for failure time dist.** BHU. Dr S K Upadhayaya, Department of Statistics, Banaras Hindu University, Varanasi,

2. Choudari, Dhirendra Kumar. **On some migration models.** BHU. Dr K N S Yadava, Department of Statistics, Banaras Hindu University, Varanasi.

3. Katiyar, Harimohan. **Pattern of out migration from rural area.** BHU. Prof R C Yadava, Department of Statistics, Banaras Hindu University, Varanasi.

4. Singh, Ajay Kumar. **Some statistical methodology in life testing distribution.** BHU. Dr (Mrs) S Tripathi, Department of Statistics, Banaras Hindu University, Varanasi.

5. Singh, Anil Kumar. **Estimation problems in infinite populations under the presence of measurement errors.** BHU. Dr V K Singh, Department of Statistics, Banaras Hindu University, Varanasi.

6. Singh, Ashok Kumar. **Study of human fertility through models.** BHU. Prof R C Yadava, Department of Statistics, Banaras Hindu University, Varanasi.

7. Tripathi, Brijesh Kumar. **Estimation in simultaneous equation models.** BHU. Dr K N Pandey, Department of Statistics, Banaras Hindu University, Varanasi.

8. Yadava, Mehendra. **Some aspect of out migration from rural area.** BHU. Dr K N S Yadava, Department of Statistics, Banaras Hindu University, Varanasi.

Physics

1. Aiyappan Pillai, C D. **X-ray and spectroscopic studies on biomolecular conformation.** Kerala. Dr C Mohanakumaran Nair, Department of Physics, M G College, Trivandrum.

2. Cherian, Ligi. **Electrodynamics of the equatorial electrojet.** Kerala. Dr V V Somayajulu, Space Physics Laboratory, Vikram Sarabhai Space Centre, Trivandrum.

3. Dwivedi, Rakesh Kumar. **Electrodeposition of semiconducting materials and their characterization.** BHU. Dr R P Singh, Department of Physics, Banaras Hindu University, Varanasi.

4. Koshy, Peter. **Study of high Tc superconductors.** Kerala. Dr P S Mukherjee, Regional Research Laboratory, Trivandrum and Dr V K Vaidyan, Department of Physics, University of Kerala, Kariavattom.

5. Mishra, Rajani Kant. **Thermodynamics of undercooled liquids and glass formation ability.** BHU. Dr K S Dubey, Department of Applied Physics, Banaras Hindu University, Varanasi.

6. Mishra, Siddharth. **Experimental study of high energy nucleus- nucleus collision.** BHU. Prof S K Tuli, Department of Physics, Banaras Hindu University, Varanasi.

7 Pandey, Mani Bhushan. **Spectroscopic studies of atoms and molecules.** BHU. Prof D K Rai, Department of Physics, Banaras Hindu University, Varanasi.

8. Ram Singh. **Study of boundary layer phenomena in terrestrial atmosphere.** BHU. Dr R P Singh, Department of Physics, Banaras Hindu University, Varanasi.

9. Singh, Ajay Kumar. **Electromagnetic communication and E M wave propagation in confined and semi confined regions.** BHU. Prof O N Singh, Department of Applied Physics, Banaras Hindu University, Varanasi and Prof P Khastgir, Department of Applied-Physics, Banaras Hindu University, Varanasi.

10. Sivananda Pai, D. **Study of atmospheric parameters using laser remote sensing.** Kerala. Dr M Satyanarayana, Space Physics Laboratory, Vikram Sarabhai Space Centre, Trivandrum.

Chemistry

1. Das, Amlan Kumar. **Liquid membrane phenomena of biological relevance.** BHU. Prof R C Srivastava, Department of Chemistry, Banaras Hindu University, Varanasi.

2. Delta, Anil Kumar. **Effect of substitutions on chalkone derivatives : A polarographic study.** Delhi. Dr N R Banerjee, Department of Chemistry, University of Delhi, Delhi

3. Dhanabalan, O. **Transition metal complexes of some donor ligands.** BHU. Dr B Singh, Department of Chem Banaras Hindu University, Varanasi.

4. Kanakamma, P P. **Synthesis of macrocyclic ensemb potential encapsulating agents.** Kerala. Dr N S Moni, Divis Food, Regional Research Laboratory, Thiruvananthapuram.

5. Kaul, Ramesh Kumar. **Synthesis of peptides.** BHU. Balaji Rao, Department of Chemistry, Banaras Hindu Unive Varanasi.

6. Kim, Dong Oh. **Organic quantum chemistry.** BHU. P Chandra, Department of Chemistry, Banaras Hindu Unive Varanasi.

7. Khare, Rita. **Mathematical modeling of corro phenomenon.** BHU. Dr A K Mukherjee, Department of Ap Chemistry, Banaras Hindu University, Varanasi and Dr M M S Department of Applied Chemistry, Banaras Hindu Unive Varanasi.

8. Mani, T V. **Ceramic oxide through techniques.** Kera K G K Warrier, Regional Research Laboratory, Thiruvanthapuram.

9. Menon, A Nirmala. **Studies of tripenic glycerides of s** Kerala. Dr C S Narayanan, Regional Research Labora Trivandrum.

10. Mishra, Manisha. **Protein phosphorylation in deve rat brain during hypomyelination - a functional study with s reference to the role of synapsin.** BHU. Prof D C Rupain Department of Applied Chemistry, Banaras Hindu Unive Varanasi and Prof Raj Shankar, Department of Bio-Chem Banaras Hindu University, Varanasi.

11. Pandey, Kamlesh Kumar. **Studies on organic disulp trisulphides and related compounds.** BHU. Prof P K Sriva Department of Chemistry, Banaras Hindu University, Varana

12. Pandey, Narendra Kumar. **Chemistry of techn through its complexes and its separation from other elem** BHU. Dr Rajendra Narain Singh, Department of Chem Banaras Hindu University, Varanasi.

13. Prasannachandran Pillai, T. **Studies on metal com** Kerala. Dr T Radhakrishnan, Department of Chemistry, Uni of Kerala, Trivandrum.

14. Rathore, Indu Bala. **Studies on polyesters-ep polyurethane as corrosion inhibitors.** Devi Ahilya. Dr S I Prof and Head, Department of Chemistry, Govt Girls P G C Indore.

15. Singh, Praveen Kumar. **Coordination chemistry : M and spectral studies of some lanthanial complexes.** BHU. Singh, Department of Chemistry, Banaras Hindu Uni Varanasi.

16. Singh, Sanjay. **Theoretical studies of molecular pro** BHU. Prof P Chandra, Department of Chemistry, Banaras University, Varanasi.

17. Singh, Sudha. **Enzyme catalysed reactions for the mination of metals.** BHU. Dr A K Ghose, Departm Chemistry, Banaras Hindu University, Varanasi.

18. Sumathikutty, M A. **Phytochemical investigation species.** Kerala. Dr J Madhusoodana Rao, Regional R

boratory, Trivandrum.

19. Suman. **Chemistry of natural products and synthetic or-nic chemistry.** Delhi. Prof D K Bhardwaj, Department of emistry, University of Delhi, Delhi.

20. Thomas, O. **Studies on thermal annealing of chemical diation damage and thermo gravimetric studies on the effect of adication of some inorganic oxy-salts.** Kerala. Dr T Radhakrish-an, Department of Chemistry, University of Kerala, Trivandrum.

21. Tripathi, Yashowardhan. **Complexes of hydrazine deriva-on.** BHU. Dr K K Narang, Department of Chemistry, Banaras indu University, Varanasi.

22. Upadhyay, Kaushal Kumar. **Metal directed synthesis of icrodyclic ligands and their metal complexes in the platinum etal.** BHU. Dr Lallan Misra, Department of Chemistry, Banaras indu University, Varanasi.

23. Upadhyay, Kusum Km. **NMR spectroscopy of T.** BHU. Dr Mrs) Ranjana Khanna, Department of Chemistry, Banaras Hindu niversity, Varanasi.

24. Ushakumari, B. **Studies on some schiff base complexes of anthanide (III)ions in presence of different anions.** Kerala. Dr P ndrasenan, Department of Chemistry, University of Kerala, Kerala.

25. Yadav, Subhash Singh. **Studies on chemically sensitive devices.** Dr P C Pandey, Department of Chemistry, Banaras Hindu University, Varanasi.

Earth Sciences

1. Ashok Kumar. **Sedimentological studies of quarternary sedi-ments.** BHU. Dr R N Tiwari, Department of Geology, Banaras Hindu University, Varanasi.

2. Banerjee, Tapan Kumar. **Metamorphic petrology of the precambrian rocks around Bhinai district, Ajmer, Rajasthan.** BHU. Prof S N Sharma, Department of Geology, Banaras Hindu University, Varanasi.

3. Dhanesh Kumar, P. **Structure of the granulite facies terrain in parts of South Kerala with special reference to charnockite making - breaking events.** Kerala. Dr V Prasanna Kumar, Reader, Department of Geology, University of Kerala, Kariavattom.

4. Hsean, Asemeh Readuf. **Geochemical studies of Bastar granites with special reference to area around Katekalyan.** BHU. Prof S G Karkare, Department of Geology, Banaras Hindu University, Varanasi.

5. Singh, Alok Kumar. **Organic petrological and geochemical studies of the palaeogene coal deposit of Meghalaya.** BHU. Dr M P Singh, Department of Geology, Banaras Hindu University, Varanasi.

6. Singh, Brij Bihari. **Structure and tectonics of a part of crystalline zone, Garhwal, Himalaya, UP.** BHU. Dr H B Srivastava, Department of Geology, Banaras Hindu University, Varanasi.

7. Singh, Dinesh Chandra. **The study of petrology, geochemistry and economic aspects of the pegmatites and associated rocks of a part of Hazari Bagh, Distt. Bihar.** BHU. Dr Arup Deb, Department of Geology, Banaras Hindu University, Varanasi.

8. Singh, Subhash Chandra. **Hydrogeophysical studies in sedimentary terrain.** Dr P C Chandra, Geophysicist, Central Ground Water Board, Lucknow and Prof Avadh Ram, Department of Geophysics, Banaras Hindu University, Varanasi.

Engineering and Technology

1. Ashok Kumar. **Rock behaviour under dynamic loading.** BHU. Dr V R Sastry, Department of Mining Engineering, Banaras Hindu University, Varanasi and Dr D P Singh, Department of Mining Engineering, Banaras Hindu University, Varanasi.

2. Chandola, A K. **Fluid flow and heat transfer.** BHU. Prof S N Gupta, Department of Mechanical Engineering, Banaras Hindu University, Varanasi and Dr Om Prakash, Department of Mechanical Engineering, Banaras Hindu University, Varanasi.

3. Chaturvedi, Kishan Kumar. **Characteristics of soil erosion in sub-critical flow condition of channel.** BHU. Dr U K Chowdhury, Department of Civil Engineering, Banaras Hindu University, Varanasi.

4. Choudhary, Pankaj Kumar. **Heat and mass transfer in energy storage systems.** BHU. Dr A K Verma, Department of Chemical Engineering, Banaras Hindu University, Varanasi.

5. Das Bijan Behari. **A pulse-position pulse-width modulated (PPPWM)control concept for sampled data systems.** Kerala. Dr K A Muraleedharan, Prof,Departmentof Electrical Engineering, College of Engineering, Trivandrum.

6. Datta, Subrata Kumar. **Travelling wave tubes.** BHU. Prof B N Basu, Department of Electronics Engineering, Banaras Hindu University, Varanasi and Dr P K Jain, Department of Electronics Engineering, Banaras Hindu University, Varanasi.

7. Dubey, Ram Sagar. **Removal of metals from Industrial wastes.** BHU. Prof S N Upadhyay, Department of Chemical Engineering, Banaras Hindu University, Varanasi.

8. Kannan, O M. **N D T of composites.** BHU. Prof Ravi Prakash, School of Biomedical Engineering, Banaras Hindu University, Varanasi and Dr V K Srivastava, School of Biomedical Engineering, Banaras Hindu University, Varanasi.

9. Krishna Mohan, B. **Bioreactor kinetics and analysis.** BHU. Dr S K Srivastava, School of Biochemical Engineering, Banaras Hindu University, Varanasi and Prof S N Upadhya, School of Biochemical Engineering, Banaras Hindu University, Varanasi.

10. Nandy, T K. **Physical metallurgy of Ti-Al-X-systems.** BHU. Dr D Banerjee, Defence Metallurgical Research Laboratory, Hyderabad and Dr S Lele, Department of Metallurgical Engineering, Banaras Hindu University, Varanasi.

11. Narayan Reddy, Momidi. **Numerical modelling of slopes and their stability analysis.** BHU. Dr D P Singh, Department of Mining Engineering, Banaras Hindu University, Varanasi.

12. Pandey, Somendra. **Transfer process in solid-liquid and gas- liquid systems.** BHU. Dr Surendra Kumar, Department of Chemical Engineering, Banaras Hindu University, Varanasi.

13. Prasada Rao, Ch. V R S. **Numerical modelling applications in rock excavation design.** BHU. Prof B B Dhar, Department of Mining Engineering, Banaras Hindu University, Varanasi.

14. Prashanth Kumar, Kalli. **Study of polymer based biomaterials.** BHU. Dr A K Roy, School of Biomedical Engineering, Banaras Hindu University, Varanasi and Dr M Mishra, School of Biomedical Engineering,Banaras Hindu University, Varanasi.

15. Parthiban, G T. **Environment assisted fracture of Al alloys.** BHU. Dr K Balakrishnnan, Central ElectroChemical Research Institute, Karaikudi and Dr T K G Namboodhiri, Department of Metallurgical Engineering, Banaras Hindu University, Varanasi.

16. Rajkumari Tomphasono Devi. **Study on corrosion due to acid mine water and its prevention.** BHU. Dr S Ratan, Department of Mining Engineering, Banaras Hindu University, Varanasi and Dr M M Singh, Reader,Department of Applied Chemistry,Banaras Hindu University, Varanasi.

17. Sah, Devendra. **Influence of some additives on dielectric behavior of titanate ceramics.** BHU. Prof V C Joshi, Department of Ceramic Engineering, Banaras Hindu University, Varanasi; Dr N K Sinha,Department of CeramicEngineering,BanarasHindu University, Varanasi and Dr B B Srivastava, Department of Applied Physics, Banaras Hindu University, Varanasi.

18. Sandeep Kumar. **Gear vibrations.** BHU. Prof B Kishore, Department of Mechanical Engineering, Banaras Hindu University, Varanasi.

19. Sarkar, Jyotirmoy. **Neural networks.** BHU. Prof V V Menon, Department of Computer Engineering, Banaras Hindu University, Varanasi.

20. Sharma, Anil Kumar. **Optically tuned high speed devices.** BHU. Prof B B Paul, Department of Electronics Engineering, Banaras Hindu University, Varanasi.

21. Sharma, Gopesh Chandra. **Diffuse phase transition in ferroelectric' ceramics.** BHU. Dr D Pandey, School of Materials Science and Technology, Banaras Hindu University, Varanasi.

22. Shukla, Kaushal Kumar. **Artificial intelligence.** BHU. Prof Raghunath, Department of Computer Engineering, Banaras Hindu University, Varanasi.

23. Shukla, Madan Kumar. **Effect of rock properties on blasting.** BHU. Dr V R Sestry, Department of Mining Engineering, Banaras Hindu University, Varanasi and Dr D P Singh, Department of Mining Engineering, Banaras Hindu University, Varanasi.

24. Singh, Ajay Prakash. **Geology in mine planning.** BHU. Dr R Nath, Department of Mining Engineering, Banaras Hindu University, Varanasi.

25. Singh, Suman Kumar. **Design of underground structures by numerical methods.** BHU. Dr B K Srivastava, Department of Mining Engineering, Banaras Hindu University, Varanasi.

26. Singh, Yogesh. **Multi attribute evaluation of advanced production system.** BHU. Dr S K Sharma, Reader, Department of Mechanical Engineering, Banaras Hindu University, Varanasi and Dr A K Agrawal, Department of Mechanical Engineering, Banaras Hindu University, Varanasi.

27. Sreenivas, Makkapati Venkata. **Ground vibrations produced due to blasting.** BHU. Dr V R Sastry, Department of Mining Engineering, Banaras Hindu University, Varanasi and Prof D P Singh, Department of Mining Engineering, Banaras Hindu University, Varanasi.

28. SreeRamaRaju, Muddaluru. **Microbial degradation of wastefrom biochemical/food industry.** BHU. Dr M Das, School of Biochemical Engineering, Banaras Hindu University, Varanasi.

29. Thakur, Jainendra Kumar. **Nitrogen fixation and its variability in B G A Spp.** BHU. Dr Ashok Kumar, Department of Biotechnology, Banaras Hindu University, Varanasi.

30. Tiku, Sanjay. **Transmission electron microscopic study of rapidly solidified oxides and alloys systems.** BHU. Prof P Ramachandra Rao, School of Materials Science and Technology, Banaras Hindu University, Varanasi and Dr G V S Sastry, School of Materials Science and Technology, Banaras Hindu University, Varanasi.

31. Tiwari, Vinod Kumar. **Effect of mine environment on health and work attitude of workers.** BHU. Dr S Ratan, Department of Mining Engineering, Banaras Hindu University, Varanasi and Dr A P Singh, Department of Mining Engineering, Banaras Hindu University, Varanasi.

32. Upadhaya, Chandra Bhushan. **Nonlinear analysis of cable-stayed bridges.** BHU. Prof T P Agrawal, Department of Civil Engineering, Banaras Hindu University, Varanasi and Dr P K Sing Department of Civil Engineering, Banaras Hindu Universit Varanasi.

33. Verma, Lalji. **Pile foundation.** Prof V Singh, Department o Civil Engineering, Banaras Hindu University, Varanasi.

Biological Science Centre

Biology

1. Behera, Bhagirathi. **Bioproductivity of sal and bioactivity o earthworms in Ushakothi forest, Orissa, India.** Sambalpur. Dr K Senapati, School of Life Sciences, Sambalpur University, Burla.

2. Jayakumari, M. **Studies on the ecophysiology of echinoderm along the coast of Kerala.** Kerala. Dr H Suryanarayanan, Department of Aquatic Biology and Fisheries, University of Kerala Thiruvananthapuram.

3. Sahoo, Sunanda. **Agropotentiality of paper mills effluents Its effect on soil, crop and earthworms.** Dr Pramod Ch Mishra School of Life Science, Sambalpur University, Burla.

4. Thankachy, C K. **Studies on the ecophysiology of intertidal molluscs along the Coast of Kerala.** Kerala. Dr H Suryanarayanan, Department of Aquatic Biology and Fisheries,University of Kerala, Thiruvananthapuram.

Biochemistry

1. Menon, Rajesh P. **Blood cell-vessel wall interaction.** Kerala. Dr P R Sudhakaran, Department of Biochemistry, University of Kerala, Kariavattom.

2. Thampi, Anithe. **Extracellular matrix and its influence on the activity of hepatocytes in culture.** Kerala. Dr P R Sudhakaran, Department of Biochemistry, University of Kerala, Kariavattom.

Microbiology

1. Khan, Mohammad Aslam. **Biology of Entamoeba histolytica.** BHU. Prof P C Sen, Department of Microbiology, Banaras Hindu University, Varanasi.

Botany

1. Agrawal, Sunit Kumar. **Lake ecology with reference to nutrient cycling.** BHU. Prof R S Ambasht, Department of Botany, Banaras Hindu University, Varanasi.

2. Anitha, S. **Mutagenesis in certain medicinal plants of Kerala.** Kerala. Dr G Vilasini, Prof, Department of Botany,M GCollege, Thiruvananthapuram.

3. Aradhna. **Studies on the management of pan with special reference to storage life.** H S Gour. Dr A S Mishra, Department of Botany,Dr H S Gour Vishwavidyalaya, Sagar.

4. Babu, R Rames. **Polymorphism and its taxonomic importance.** BHU. Dr B R Chaudhary, Department of Botany,Banaras Hindu University, Varanasi.

5. Chatterjee, Sabita. **Effect of heavy metals in green algae.** BHU. Dr S P Singh,Department of Botany, Banaras Hindu University, Varanasi.

6. Chaturvedi,ShiveShankar. **Effect of sewageoncrop productivity.** BHU. Dr B D Tripathi, Department of Botany, Banaras Hindu University, Varanasi.

7. Chouhan, Ashok Kumar Singh. **Effect of herbicides on the cytomorphology of weeds.** H S Gour. Dr S K Yadav, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar.

8. Deshpande, Jyoti. **Studies on biodegradation of keratin by**

ratinophilic fungi inhabiting poultry farms in and around Jabalir. H S Gour. Dr P C Jain, Department of Botany, Dr H S Gour shwavidyalaya, Sagar.

9. Dubey, Manjusha. **Studies on the fungal disease of garden ants.** H S Gour. Dr K M Vyas, Department of Botany, Dr H S our Vishwavidyalaya, Sagar.

10. Dwivedi, Arjun Prasad. **Study of the compatibility of tree ecies with agricultural crops in selected areas.** H S Gour.

11. Elias, E Thayil Singh. **A study on various radiobiological arameters used in radiotherapy.** Kerala. Dr T P Ramachandran, egional Cancer Centre, Thiruvananthapuram and Dr M Krishnan air, Regional Cancer Centre, Thiruvananthapuram.

12. Goel, Anuradha. **Ecology of two common plants from astelands from Varanasi.** BHU. Dr H R Sant, Department of otany, Banaras Hindu University, Varanasi.

13. Gupta, Savita. **Amino acids and stomatal regulation in lants.** HP. Dr V K Rai, Department of Biosciences, Himachal radesh University, Shimla,

14. Iqbal, Sanjeeda. **Studies on sugar industry effluent and its valuation for irrigation .** Vikram. Dr S C Mehta, Department of Botany, Govt College, Jaora, Ratlam.

15. Jain, Dinesh Kumar. **Studies on epiphytic bryophytes of Pachmarhi and response of two epiphytic mosses against toxic metals.** Vikram. Dr Ashok Kaul, Department of Botany, Madhav Science College, Ujjain.

16. Jain, Divya. **Study of mycotoxins deteriorating food and dry fruits and the evaluation of their biological effects (Mycotoxicaceae).** H S Gour. Dr S C Agarwal, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar and Dr P C Jain, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar.

17. Jain, Sulekha. **Seed biology of some selected leguminous tree species.** H S Gour. Prof G P Mishra, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar.

18. Jain, Vivekanand. **Chemo taxonomic and taxomatrics studies in family Labiatae (Lamiaceae).** H S Gour. Dr T R Sahu, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar.

19. Katare, Mahendra Kumar. **Studies on the fungal disease of weeds with special reference to biological control of some important weeds plants.** H S Gour. Prof K M Vyas, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar and Dr N K Soni, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar.

20. Khan, Ishrat Jahan. **Ethnomedicinal studies on family Asteraceae for their propagation and antimicrobial activity.** H S Gour. Dr N P Bhalla, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar.

21. Lal Singh. **Studies on the mycorrhizal relationship of the edible, hypogeous mushroom, Octaviania densa and Cedrus deodara trees.** H P. Dr T N Lakhanpal, Department of Bioscience, Himachal Pradesh University, Shimla.

22. Maurya, Siddheshwar Singh. **Ecosystem analysis of a wetland.** BHU. Prof R S Ambasht, Department of Botany, Banaras Hindu University, Varanasi.

23. Mishra, Chakra Pani. **Effect of cement dust pollution to crop ecosystem.** Magadh. Dr D D Pandey,Department of Botany, S P M College, Udantpury, Nalanda.

24. Mishra, Sutapa. **Effect of air pollutants on crop plants.** BHU. Dr (Mrs) M Agrawal, Department of Botany, Banaras Hindu University, Varanasi.

25. Modgil, Dalip Kumar. **Embryological studies in some taxa of Himalayan Orchidaceae with comments on the systematic positions of Apostasia, Cypripedium and Vanda.** HP. Dr S K Sood, Department of Bioscience, Himachal Pradesh University, Shimla.

26. Nagori, Mohammad Shahid. **Effect of basalin on interaction between charcoal rot disease of soyabean and soil microflora.** Vikram. Dr (Smt) Sudha Mall, Department of Botany, Vikram University, Ujjain.

27. Patel, Jai Ram. **Investigation on indigenous medicinal plants in forest of Sagar district.** H S Gour. Dr N P Bhalla, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar.

28. Patel, Om Prakash. **Cytogenetics of interspecific hybrids from 22 chromosome grain legumes.** Vikram. Dr R C Verma, Department of Botany, Vikram University, Ujjain.

29. Patidar, Hari. **Studies on Papaver somniferum Linn. hybrids and their adaptation.** Vikram. Dr R C Verma, Department of Botany, Vikram University, Ujjain.

30. Pattanaik, Prafulla Kumar. **Physiology of internode elongation in rice varieties and the effects of water stresses.'** Sambalpur. Dr P K Mohapatra, Reader, School of Life Sciences, Sambalpur University, Burla.

31. Polo, Arvind Pandhari Nath. **Hydro biological studies of Kampara Gaon Reservoir, District Chhindwara, M P.** H S Gour. Dr K S Unni, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar.

32. Rai, Pramoda Kumar. **Physiological and biochemical studies on algae from certain harsh environment.** BHU. Dr L C Rai, Department of Botany, Banaras Hindu Universty, Varanasi.

33. Raj, Tara. **An ecological study of the algal flora of Hoshangabad and it environs.** H S Gour. Dr Pramod Patil, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar.

34. Rajput, Anjana. **Seed biology of some selected tree species of Central India.** H S Gour.

35. Rajput, Manju. **Interaction of environmental factors with air pollutants with respect to plant response.** BHU.: Dr (Mrs) M Agrawal, Department of Botany, Banaras Hindu University, Varanasi.

36. Rana, Usha. **Studies in drought physiology : Free amino acids and calcium balance in Phaseolus vulgaris.** HP. Dr V K Rai, Department of Biosciences, Himachal Pradesh University, Shimla.

37. Rastogi, Shashi. **Response of crop land ecosystem to dust pollution by stone crusher.** Magadh. Dr D D Pandey,Department of Botany, S P M College, Udantpuri, Nalanda.

38. Saha, Santanu. **Aspects of tropical environment.** BHU. Prof J S Singh, Department of Botany, Banaras Hindu University, Varanasi.

39. Saket Vihari. **Ecological study of Helianthus annuus L. from Biharsharif, Bihar.** Magadh. Dr D D Pandey, Department of Botany, S P M College, Udantpuri, Nalanda.

40. Santvan, Virendar Kumar. **Ecological studies on alpine vegetation near Rahla, Kullu, Himachal Pradesh.** HP. Dr R S Thakur, Department of Biosciences, Himachal Pradesh University, Shimla.

41. Sapru, Tripta. **Studies on root rot and leaf blight of mung with special reference to physiology of diseases.** Vikram. Dr O P Mall, Department of Botany, Vikram University, Ujjain.

42. Sharma, Sanjay. **Ecological studies of some forest berries.** HS Gour. Prof G P Mishra, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar and Dr S P Bajpai, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar.

43. Sijaria, Anupma. **Role of fungal contaminants in quality loss of wheat grain during storages.** H S Gour.

44. Singh, Abhay Kumar. **Studies on genetic variation and factors regulating mushroom cultivation, in variation.** BHU. Dr B K Roy, Department of Botany, Banaras Hindu University, Varanasi and Dr D C Pant, Department of Botany, Banaras Hindu University, Varanasi.

45. Singh, Amar Nath. **Microbiology of the rhizosphere.** BHU. Prof Bharat Rai, Department of Botany, Banaras Hindu University, Varanasi.

46. Singh, Bharat. **Studies on reversal of the effects of seed ageing in two soyabean cultivars.** Vikram. Dr D Amritphale, Department of Botany, Vikram University, Ujjain.

47. Singh, Bharti. **Photoacoustic spectroscopy of diseased plant parts.** BHU. Prof Bharat Rai, Department of Botany, Banaras Hindu University, Varanasi and Prof D K Rai, Department of Botany, Banaras Hindu University, Varanasi.

48. Singh, Jitendra. **Ecophysiological studies of Crotolaria and Desmodium species.** H S Gour. Dr N P Bhalla, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar.

49. Singh, Rajiv Kumar. **Microbial ecology and pathology of selected microbes.** BHU. Prof Bharat Rai, Department of Botany, Banaras Hindu University, Varanasi.

50. Soni, Kamal Kumar. **Studies on the mitotic and cytological effects of some insecticides.** H S Gour. Dr S K Yadav, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar.

51. Sood, Vipan Kumar. **Phytosociology, nutrient input and litter decomposition in certain forest ecosystems of Shimla Hills.** H P. Dr R S Thakur, Department of Biosciences, Himachal Pradesh University, Shimla.

52. Srivastava, Neeraj. **Tissue culture of tropical fruit trees.** BHU. Dr V S Jaiswal, Department of Botany, Banaras Hindu University, Varanasi and Dr (Mrs) Uma Jaiswal, Department of Botany, Banaras Hindu Universty, Varanasi.

53. Srivastava, Nilam. **Ecological study of two forbs from grazing grounds.** BHU. Dr H R Sant, Department of Botany, Banaras Hindu University, Varanasi.

54. Tejwani, Sarita. **Microbiology of Eucalyptus litter and its impact on soil fertility.** Vikram. Dr O P Mall, Department of Botany, Vikram University, Ujjain.

55. Thakar,Chhaya. **Pathological and biochemical studies of fruit rot of Pyrus malus and Citrus reticulata caused by Botryes phaeria species.** H S Gour. Dr P Mehta, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar.

56. Yadav, Janardan. **Biological control of some soilborne diseases through the use of hyperparasites.** BHU. Dr D K Arora, Department of Botany, Banaras Hindu University, Varanasi.

Zoology

1. Arvind Kumar. **Pheromonal control of mammalian reproduction.** BHU. Prof C J Dominic, Department of Zoology, Banaras Hindu University, Varanasi and Dr A Krishan, Department of Zoology, Banaras Hindu University, Varanasi.

2. Chandra Sekhar, K. **Studies on DNA methylation in**
malian spermatogenesis. BHU. Dr R Raman, Department of
ogy, Banaras Hindu University, Varanasi.

3. Ganesh, S. **Molecular analysis to differentiation**
chromosomes in septiler. BHU. Dr R Raman, Depar
Zoology, Banaras Hindu Universty, Varanasi.

4. Kalpana, B. **TRNA ; Its role during the reproductive**
a fresh water teleost. BHU. Dr M Vinayak, Department of
Banaras Hindu University, Varanasi.

5. Mishra, Choudhury Suryakant. **Biology and control**
Uri- fly, Blepharipa zebina, the techinid endoparasite of
worm, Atheraea mylitta Drury. Sambalpur. Dr M C
Prof,School of Life Sciences, Sambalpur University, Burla.

6. Mohanty, Prafulla Kumar. **Biology and some**
aspects of the Indian tasar silk moth, Antheraea paphia(
tera). Sambalpur. Dr Milan Kumar Behera, Reader, G M
Sambalpur.

7. Panda, Saroj Kumar. **Water quality and biotic**
structure in some fresh water ponds of Bargarh town.
Prof M C Dash, School of Life Sciences,Sambalpur University,

8. Paul, V I. **The histopathology of fish skin and**
respiratory organ. BHU. Dr T K Banerjee, Department of
Banaras Hindu University, Varanasi.

9. Sarangi, Babita. **Studies on some aspects of liver and**
metabolism in tropical hibernating toad, Bufo
relation to ageand season. BHU. Prof Ashutosh Mittra,
ment of Life Sciences, Sambalpur University, Burla.

10. Sen, Subharanjan. **Olfactory stimuli in rodent**
tion. BHU. Prof C J Dominic, Department of Zoology,
Hindu University, Varanasi and Dr A Krishna, Department of
ogy, Banaras Hindu University, Varanasi.

11. Sharma, Anju. **Computer assisted biometric**
havioural studies on asian hive bee, Apis cerana F.H P. Dr
Verma, Department of Biosciences, Himachal Pradesh
Shimla.

Medical Sciences

1. Biswas, Sheema. **Study of genital mycoplasma in**
couple. BHU. Dr J K Agrawal, Department of Medicine,
Hindu University, Varanasi.

2. Rai, Pradeep Kumar. **Clinico-pathological study of**
renal tuberculosis with special reference to immunological
nosis. BHU. Dr R G Singh, Department of Medicine,
Hindu University, Varnasi.

3. Rai, Pramod Kumar. **Effects of laser on tissue**
wound healing and systemic effects. BHU. Prof H S
Department of Surgery, Banaras Hindu University, Varanasi.

4. Reeta. **A study on nutritional status and dietary**
diabetics. BHU. Dr J K Agrawal, Department of Medicine,
Hindu University, Varanasi.

5. Seth, Anuradha. **A critical study on application of**
raphy at the University Hospital, Varanasi. BHU. Prof A
Prakash, Department of Obstetrics and Gynaecology, Banaras
University, Varanasi.

6. Wadhwa, Lalit Kumar. **Structural modifications**
methoxy- 2-naphthylacetic acid using prodrug approach.
Dr P D Sharma, Department of Pharmaceutical Sciences,
University, Chandigarh.

THAPAR TECHNOLOGY CAMPUS, PATIALA

ADV.NO.PAS/2/91

ering over 250 acres of land on the outskirts of Patiala City, the Thapar Technology Campus comprises three itutions, namely, Thapar Institute of Engineering & Technology (TIET), the Thapar Corporate R & D Centre RDC) and Thapar Polytechnic (TP). TIET, a Deemed University, offers academic programmes leading to helor of Engineering (BE) degrees at undergraduate level, MCA, M.Sc and M.E. degrees at postgraduate l and Ph.D. degrees at the research level. TCRDC undertakes research, design and development work in the as of Biotechnology, Chemical Engineering, Energy Systems, Mechanics & Computers and Materials Science. offers courses at the Diploma level. The Institute, the Centre and the Polytechnic interact and collaborate sely on mutually beneficial projects.

THAPAR INSTITUTE OF ENGINEERING & TECHNOLOGY

(Deemed University)

plications are invited for the following permanent posts in the Institute.

ALES :	Professor	Rs. 4500-150-5700-200-7300
	Assistant Professor	Rs.3700-125-4950-150-5700
	Lecturer	Rs.2200-75-2800-100-4000

SCIPLINE	DESIGNATION	POSTS	SPECIALISATION
VIL IGINEERING	Professor	1	- Geotechnical/Transportation/Surveying/ Environment(1)
	Assistant Professor	5	-Structures (2), Geotechnical (1), Transportation(1), Surveying/Construction Management(1)
	Lecturer	1	-Geotechnical(1),
ECTRICAL ELECTRONICS IGINEERING	Professor	1	-Electronics & Electrical Communication (1)
	Assistant Professor	1	-Instrumentation & Control (1)
	Lecturer	4	-Any area Electrical/Electronics/Instrumentation (4)
ECHANICAL INDUSTRIAL NGINEERING	Professor	3	-Any area of Mechanical/Industrial (2), Industrial (1)
	Assistant Professor	2	-Any area of Mechanical/Industrial (1), Industrial (1)
	Lecturer	1	-Any area of Mechanical/Industrial (1)
OMPUTER PPLICATIONS	Professor	2	-Computer Science (1), Management Science/Operation Research (1),
	Assistant Professor	2	-Computer Science(1), Management Science/Operation Research (1)
	Lecturer	3	-Computer Science (1), Mathematics (Computer based) (1), Economics/Financial Management (1)
ASIC & PPLIED CIENCES	Professor	2	-*Physics (Solid State/Applied Optics/Materials Science)(1), *Chemistry (Analytical/Physical/Polymers/Applied) (1)
	Assistant Professor	2	-*Physics (Applied Optics/Solid State) (1) *Materials Science (Polymers/Metallurgy/Ceramics) (1)
	Lecturer	2	-*Mathematics (Applied/Numerical Analysis & Computers/ Probability & Statistics) (1) *Physics (Solid State/Applied Optics/Nuclear) (1)
UMANITIES & IBERAL ARTS	Professor	1	-Any area of Humanities & Liberal Arts (1)
	Assistant Professor	1	-*Humanities (History of Culture and Arts) (1)

*Plan posts but likely to continue.

he essential qualifications and experience for the posts are as approved by the Union Ministry of Human esource Development (Department of Technical Education).

andidates who have already applied for the post of Professors and Assistant Professors in response to our dvertisement No.PAS/2/90 published in May, 1990 need not apply again. They can however supply additional formation,if any.

he information leaflet along with the prescribed application form can be obtained from the office of undersigned person or by sending a self addressed 22x30 envelope with postage stamps of Rs.3.00 affixed to it. Last date for eceipt of application is **May 20, 1991.**

he Registrar,
hapar Institute of Engineering & Technology,
ATIALA -147 001

THAPAR CORPORATE RESEARCH & DEVELOPMENT CENTRE

pplications are invited for several positions of RESEARCH ENGINEERS/SCIENTISTS in various Divisions f the Centre.

ESEARCH DIVISIONS -CHEMICAL ENGINEERING
-BIO-TECHNOLOGY

-ENERGY SYSTEMS
-MECHANICS & COMPUTERS
-MATERIALS SCIENCE

QUALIFICATIONS & EXPERIENCE : Ph.D. degree in Science or M.E. degree in Engineering in the a indicated above, preferably with Ph.D. in Engineering or Technology, published work of high standard, academic record, some post-doctoral experience and experience of Academic/Industrial research. Manage education and aptitude for commercialisation would be desirable.

SALARY SCALES :
A-2500-75-2800-100-4000
B-3100-100-3500-125-4500
C-3700-125-4700-150-5000
D-4500-150-5700-200-6100
E-5400-150-5700-200-7300

Apart from salary, benefits such as rent-free furnished accommodation, transport assistance, medical assista group insurance, superannuation, LTA, CPF, gratuity etc, are available as per rules of the Centre. Salary and o benefits will be fixed commensurate with qualifications and experience of the applicant.

Interested persons may ask for Centre's Brochure and/or submit their professional biodata (including names address of atleast three referees well familiar with their professional work) and enclosing copies of rele certificates to:

The Director, Thapar Corporate R & D Centre,
Post Box No.68, Patiala -147 001

THAPAR POLYTECHNIC

Applications are invited for the following posts in the Polytechnic

DESIGNATION	POSTS	SCALE
PRINCIPAL	1	Rs.3000-100-4000-125-5000
DEMONSTRATOR/INSTRUCTOR (CIVIL ENGG.)	1	Rs.1640-40-2000-50- 2400-60-2700-75-2925 plus Rs. 100 Teaching Allowance

The essential qualifications and experience for the posts are as approved by the State Board of Techni Education, Punjab.

The information leaflet along with the prescribed application form can be obtained from the office of undersig in person or by sending a self addressed 22x30cm envelope with postage stamps of Rs.2.00 affixed to it. Last d for receipt of application is May 20, 1991.

The Principal, Thapar Polytechnic,
PATIALA -147 001

INDIAN INSTITUTE OF TECHNOLOGY : DELHI

HAUZ KHAS, NEW DELHI 110 016

NOTICE FOR ADMISSION FOR M.Sc./M.Tech./Ph.D

Advt No.IITD/PGS/1/91

Applications are invited for the following Post-graduate programmes of IIT Delhi for the session Commenci from July, 1991. Detailed information is given in the information Brochure which will be supplied along with application form:

1. DOCTOR OF PHILOSOPHY

(Full Time, Sponsored and Part-Time)

(a) Departments/Centres offering Ph.D Programmes.

(i) ENGINEERING DEPARTMENTS

Applied Mechanics, Chemical Engineering, Civil Engineering, Computer Science and Engineering, Electrical Engineering, Mechanical Engineering and Textile Technology.

(ii) SCIENCE DEPARTMENTS

Chemistry, Mathematics and Physics.

(iii) DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

(iv) INTER DISCIPLINARY CENTRES

Bio-Chemical Engineering Research Centre, Centre for Atmospheric Sciences, Centre for Biomedical Engineering, Centre for Energy Studies, Centre for Material Science & Technology, Centre for Management Studies, Centre for Rural Development & Technology, Instrument Design Development Centre, Industrial Tribology, Machine Dynamics & Ma tenance Engineering Centre, Centre for Applied R search in Electronics.

(b) MINIMUM QUALIFICATIONS FOR ADM SION

(i) Master's degree in Engineering Technology Sci ces/ Humanities in respective discipline equivalent with a minimum GPA of 6.75 on a point scale or equivalent (as determined by IIT wherever letter grades are awarded or 60.00% gregate marks, wherever marks are awarded.

ii) In exceptional cases, candidates with B.Tech deg or equivalent with excellent record (GPA or on a 10-point scale of 70.00% marks) will be c sidered eligible for admission.

(iii) For Ph.D. programme in Biomedical Engineeri candidates having a MBBS degree with 60% more will also be considered eligible for admiss

(iv) Full-time scholars who do not possess an M.Te degree in the relevant field or Engineering/Te nology/Science disciplines or are required to qualify in UGC/CSIR fellowship examination for Sciences/Humanities & Social Sciences disciplines.

LAXATIONRelaxation upto GPA of 6.25 or 55.00% arks in minimum qualifying criteria may be permitted r SC/ST candidates. Sponsored candidates and those th MA degree in English for Ph.D. in English in the epartment of Humanities & Social Sciences.

) SCHOLARSHIP FOR FULL-TIME STUDENTS

Regular Students with M.Sc./M.A./B.Tech or equivalent qualification with valid GATE score/UGC/CSIR fellowship award will be eligible for scholarship @Rs.1800/- per month; and

) Candidates with M.Tech/M.E. or equivalent degree will be eligible for scholarship @Rs.2400/- per month as per rules of the Institute.

MASTER OF TECHNOLOGY (Full-time, Sponred and Part-Time)

) Departments/Centres offering M.Tech. programes.

pplied Mechanics, Chemical Engineering, Chemistry, ivil Engineering, Electrical Engineering, Humanities Social Sciences, Mechanical Engineering, Maths, hysics, Textile Technology, Computer Science & Enineering, Bio-Chemical Engineering Research Centre, entre for Energy Studies, Industrial Tribology, achine Dynamics & Maintenance Engineering entre, Centre for Materials Science & Tech., Centre or Management Studies, Physics & Electrical Enineering (combined).

b) MINIMUM QUALIFICATIONS FOR ADMISION

(i) For Full-Time Candidates

Candidates must have valid GATE Score.

(ii) For Sponsored and Part-Time Candidates

Bachelor's degree in Engineering/Technology or Master's degree in Science in the relevant field with GPA of 6.75 on a 10-point scale or equivalent (as determined by the IITD) wherever letter grades are awarded or 60.00% aggregate marks wherever marks are awarded.

RELAXATION

Relaxation upto GPA of 6.25 or 55% marks in minimum qualifying criterion may be permitted for Sponsored Candidates and SC/ST candidates.

(c) SCHOLARSHIP

Candidates must have a valid GATE score for the award of Institute Scholarship @Rs.1800/- p.m.

3 . MASTER OF SCIENCE

(a)M.Sc. programmes are offered by the Chemistry, Mathematics and Physics Department of the Institute.

(b) MINIMUM QUALIFICATIONS

B.Sc. (Hons)/B.Sc./B.A. in relevant field with a GPA of 6.75 on a 10-point scale or equivalent (as determined by IITD) wherever letter grades are awarded for 60.00% aggregate marks wherever marks are awarded.

Relaxation in GPA to 6.25 or in marks to 55% in the minimum eligibility criteria may be allowed to SC/ST candidates.

(c)SCHOLARSHIP AND FREESHIP:

Merit-cum-means Scholarship/Freeship are permissible to M.Sc. students as per institute rules.

GENERAL INFORMATION

a) 15% of the seats for SC and 7 ½% for the ST candidates are reserved in all the aforesaid programmes.

b) Three seats are reserved for Physically handicapped persons for admission to M.Tech and Ph.D. programmes together, on full time basis only.

c) Candidates called for Ph.D. programme will be paid to and fro second class railway fare by shortest route. However, this provision will not apply to sponsored and part-time candidates.

d) Only employees of public sector undertakings or government organisations or private industries (approved by Faculty Boards) with a minimum experience of two years and Defence sponsored officers are eligible as sponsored and part time candidates.

(e) Sponsored candidates are required to submit sponsorship certificate from their employers stating that the candidate would be treated as on duty with his usual salary and allowances and that he will be fully relieved for the period of study.

(f) In the case of part-time candidates their organisation should be situated within the distance of 50 km from the Institute. Part time candidates are required to submit a No Objection Certificate from their employers stating that the candidate is permitted to pursue his studies on part time basis.

Applications unacommpanied by such certificates from the employer will not be entertained.

(g) Hostel accommodation will be available only to full-time students (except to those who are Delhi based) subject to availablility.

5. HOW TO APPLY

Application form and Information Brochure can be obtained from the Dy Registrar (PGS) by sending application
fee of Rs.15/- by a crossed Bank Draft only in favour of IIT Delhi payable at New Delhi, alongwith a self addressed
envelope (25cm x 11cm) affixing postage stamps worth Rs.2.00 and superscribed "Application for
"Ph.D"/"M.Tech./M.Sc." as the case may be. Application Forms can also be had from the Counter (Room No.
AD-236) against Bank Draft for Rs.15/- during working hours. (THE NO. AND DATE OF THE BANK DRAFT
SHOULD BE MENTIONED BY THE CANDIDATES AT THE APPROPRIATE COLUMN WHILE SUB-
SEQUENTLY SUBMITTING THE PRINTED APPLICATION FORM/TESTIMONIALS).

The completed applications should be sent by the candidates direct to the Dy Registrar (PGS), **Indian Institute**
of Technology, New Delhi 110 016. Those who wish to apply for admission to more than one Department/Centre
should make separate application with prescribed fee. The application form at the top with all enclosures placed
below should be secured together tightly with a tag before mailing.

INTERIM ENQUIRIES WILL NOT BE ENTERTAINED.

Last date for supply of Application Forms
By Post : 13.05.1991

At Counter
ast date for receipt of completed
pplication forms : 20.05.1991

DEPUTY REGISTRAR (PGS)

MINISTRY OF DEFENCE

DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION (DRDO

Advt No.027/RAC/91

Applications from highly motivated engineering graduates with bright track record & having aptitude for research and development in Ra EMI/EMC, Microwave, Gas Turbine, Armament, Computers, Signal Processing, MMW systems & devices, Guidance and Control etc invited for the following Fellowship Programmes in DRDO:-

(1) **ELECTRONICS FELLOWSHIP COURSE:** 50 (UR-39; SC-7, ST-4)

(2) **GAS TURBINE TECHNOLOGY FELLOWSHIP COURSE:** 10 (UR-7; SC-2; ST- 1)

(3) **MECHANICAL ENGINEERING FELLOWSHIP COURSE:** 20 (UR-16; SC-3; ST-1)

(4) **SENIOR FELLOWSHIP COURSE IN GUIDED MISSILES TECHNOLOGY LEADING TO M.E./M.TECH DEGREE;** 30 (UR-23; SC-4; ST-3)

The fellowships at (1), (2) and (3) are tenable at Institute of Armament Technology, Pune for 12 months. Fellowships at (4) are availab various Institutes/universities (mentioned in para 4 below). Admission criteria and eligibility conditions for each of these fellow programmes are given in the succeeding paragraphs.

1 ELECTRONICS FELLOWSHIP COURSE

2 GAS TURBINE TECHNOLOGY FELLOWSHIP COURSE

3 MECHANICAL ENGINEEING FELLOWSHIP COURSE

Selected candidates would have to undergo specialized training as Fellows at Institute of Armament Technology, Pune for a period o months. The fellows will have to pass such tests as are prescribed by the Institute.

ELIGIBILITY

Age: Not exceeding 26 years (relaxable by five years in case of SC/ST candidates and Govt servants). Age will be reckoned as on 18th Ju 1991.

ESSENTIAL EDUCATIONAL QUALIFICATIONS : (A) Electronics Fellowship Course: At least second Class Master's degree Physics/Applied Physics with specialisation in Electronics or second Class Bachelor's degree in Electronics and/or Communication Engine ing from a recognised University or equivalent.

(B) Gas Turbine Technology Fellowship Course: and (C) Mechanical Engg Fellowship Course: At least second class Bachelor's degree Mechanical or Aeronautical Engineering from a recognised university or equivalent.

(Candidates appearing in qualifying examination may also apply. They must send copies of mark sheets upto their last semester examinati along with the application and result of last semester examination should be communicated immediately on its announcement to RAC. T candidature of such candidates can be considered only if they acquire essential qualifications by 31st July, 1991).

Candidates must apply separately in respect of each fellowship.

(4) SENIOR FELLOWSHIP COURSE IN GUIDED MISSILES TECHNOLOGY AREAS LEADING TO M.E./M.TECH. DEGREE: T fellowships are tenable for a duration of 18 months during which selected candidates would have to undergo specialised courses leading post-graduate degree at one of the Institutes/University in the subject concerned.

ELIGIBILITY (a) **Age:** Not exceeding 26 years. (relaxable by five years in case for SC/ST and Government Servants) Age will be reckon as on 18th June, 1991. **Candidates who will be admitted by the Universities/Institutes for their M.Tech. Programmes will alone be consider for the award of these fellowships.** The details of various fellowship available in different institutions along with qualification requireme for each course are given below:

Sl. No.	Name of the University/ Institute	Name of the Course	Qualification Requirements	No. of Fellows
I	II	III	IV	V
1	Indian Institute of Science, Bangalore 560 012	Aerodynamics/Structures-Fluid Dynamics of Aerospace Systems	Bachelor's degree in Aero/ Mechanical/Electrical/Electronics/ Computer Science Engg.	3
		Propulsion/Control	–do–	4
2	Indian Institute of Technology, Madras 600 036	Propulsion	Bachelor's degree in Mechanical/ Aero Engg	3
3	Indian Institute of Technology, Kharagpur 721 302	Signal Processing/ Micro-wave Engg	Bacehlors's degree in Electrical/ Electronics/Computer Science Engg	2
4	Jadavpur University, Calcutta 700 032	Control & Guidance Software	Bachelor's degree in Aero/ Electrical/Electronics/ Computer Science Engg.	2
5	PSG College of Technology, Coimbatore 641 004	CAD/CAM Production Tech	Bachelor's degree in Aero/ Mechanical/Electrical/Electronics Computer Science Engg	4
6	Indian Institute of Technology, Bombay 400 076	Aerodynamics/Structures	Bacelor's degree in Mech/Aero/ Electrical Engg	3
7	Regional Engg College, Warangal (AP)	Control Engineering (Electrical)	Bachelor's degree in Electronics/ Electrical/Computer Science Engg	2
8	Madras Institute of Technology, Madras 600 044	Aerodynamics/Propulsion	Bachelor's degree in Aero/ Mechanical Engg	3
9	Institute of Armament Technology, Pune	Structures of Missile Guided Weapons	Bachelors degree in Aero/ Mechanical/Electrical/ Electronics Engg	4

ission to the Senior Fellowship Scheme to University/Institutes at S.No.1 to 8: (a) Candidates who fulfil the prescribed qualification irements should seek admission in any one of the institutions mentioned above for the concerned subject as and when their M.Tech/ME gramme are advertised by the respective institutions (b)After admission in the respective institutions, the candidates should apply for d of Senior Fellowship under IGMDP.

ISSION TO IAT: The applications for admission to the ME Course at IAT, Pune may be sent (in the form given) to the Dean & Director, tute of Armament Technology, Giri Nagar, Pune 411 025 **before 27 May, 1991.**

ERAL CONDITIONS/INSTRUCTIONS;

Candidates working in Government/Public Sector/Autonomous Organisations should apply through proper channel.

Knowledge of German, French, Russian, Japanese or Chinese language is a desirable qualification.

The prescribed Essential Qualifications are the barest minimum and the mere possession of the same does not entitle candidates to be d for interview. Where the number of applications received in response to an advertisement is large and it will not be convenient or ible for the Recruitment and Assessment Centre (RAC) to interview all those candidates, the RAC may restrict the number of candidates nterview to a reasonable limit on the basis of qualifications higher than the minimum prescribed in the advertisement.

The RAC at their discretion, may hold a written test of candidates applying for Fellowships. No travelling or other allowance will be paid e RAC for appearing at such written test. Only those qualifying in written test (if held) will be called for interview. TA will be admissible ose who attend the interview. The number of Fellowships mentioned is tentative and may change.

Application should be sent on the plain paper in the format given below (to be typed in A-4 size paper 23cm x 10cm) accompanied by a sed non-refundable current Indian Postal Order of the value of Rs.8.00 drawn in favour of Senior Accounts Officer, Recruitment & ssment Centre, Defence Research and Development Organisation payable at New Delhi. There is no fee for Scheduled Caste/Scheduled e candidates.

Self-attested copies of certificates in support of educational qualifications, experience etc. MUST be attached with the application. didates will have to produce during interview the proof of details furnished by them in the application.

The application should be accompanied by two self-addressed unstamped covers of 23cm x 10cm size.

Only typewritten applications will be accepted. Incomplete applications will be rejected and no correspondence will be entertained in this ect.

Only Indian nationals need apply.

The applications should be sent to Director. Recruitment and Assessment Centre, Lucknow Road, Timarpur,Delhi-110054 preferably egistered Post in a cover superscribed "Application for Fellowship Programmes for Fellowships at items (1), (2) & (3) only alongwith isite Postal Orders.

Candidates for SENIOR Fellowship Scheme at Item (4)should submit their applications alongwith requisite Postal Orders direct to the istrar/Dy Registrar/Head of the Deptt of the Institute only after having obtained admission in ME/M.Tech Programme. Postal Orders, ever, should be in the name of Senior Accounts Officer, RAC, DRDO, New Delhi-110011.

Last date for receipt of applications is **18th June 1991.** Last date for receipt of applications for candidates from Andaman and Nicobar, shadweep islands and abroad is **2nd July, 1991.**

CANVASSING IN ANY FORM WLL BE A DISQUALIFICATION.

) Selection : Selection will be on the basis of a test/interview.

) Stipend & Salary: During training, the trainees will be paid a consolidated stipend of Rs. 2000/- for fellowships at 1,2 and 3. The fellowship ount for IGMDP Fellowship (at S.No.4) is Rs. 2300/- per month. in a addition book allowance would be admissible. They may be given able hostel accommodation during the period of Fellowship on payment of rent as per rules. On successful completion of the training, didates would be placed in one of the Laboratories/Establishment as Scientists 'B' in the scale of Rs. 2200-75-2800-EB-100-4000. The roximate total emoluments (ATE) at the minimum of the scale vary from Rs. 3542/- to Rs. 3872/- per month depending upon the place osting. In addition. advance increments may be given in deserving cases depending on the performance during the training.

) For instructional tours and summer training in the DRDO establishments, the Fellows will be entitled to TA/DA as admissible to Central vernment Group 'A' Officers drawing a basic pay of Rs. 2200/- in the scale of Rs. 2200-75-2800-EB-100- 4000.

) During the operation of the Fellowship Scheme, the Fellows will be required to pass all tests/examinations which are prescribed by the itute. Those who are not able to pass such tests/examinations and do not successfully complete the training shall not be considered for ointment to the grade of Scientist 'B'.

) Bond : Candidates will be under contractual obligation to serve the Defence Research & Development Organisation for a period of e (3) years, after completion of training. During training the candidates will not be permitted to apply/appear for any interview/selec-/examination.

) Promotion Prospects : DRDO offers excellent opportunities for career advancement as Scientists. Result oriented and highly motivated ntists can look forward to promotion to the following grades.

Scientist 'C' : Rs. 3000-4500
Scientist 'D' : Rs. 3700-5000
Scientist 'E' : Rs. 4500-5700
Scientist 'F' : Rs. 5100-6300
Scientist 'G' : Rs.5900-7300

motion in DRDO depends upon merit and performance and is not linked to availability of vacancies.

) Candidates have the liability to serve anywhere in India.

PROFORMA APPLICATION

APPLICATION FOR FELLOWSHIP COURSE IN ______________________ *

*(To be indicated)

Affix Passport size latest Photograph

1. Name in full (Shri/Smt/Km) (in BLOCK LETTERS)
2. Title of Fellowship :
3. (a) Name of the Institute/University at which admission is being sought
   (b) Name of the discipline of Engineering for which admission is sought
4. (a) Date of Birth : (in Christian era in figures)
   (b) Age as on 18th June 1991 :
5. Nationality :
6. Marital Status :
7. Father's/Husband's name :
8. (a) Address for correspondence : (in block letters with PINCODE)
   (b) Permanent address (in block letters with PINCODE)
9. Details of Postal Order (No. Date & Amount)
10. Nearest Railway Station :
11. Whether belong to SC/ST: (if yes. attach certificate)
12. Educational Qualifications: In chronological order from X Standard (SSLC/HS/HSC) onward

Sr. No.	Course Passed	University/Institution/Board	Year of Passing	Subject taken	Percentage of marks

13. (a) Are you a Govt. servant : Yes/No
    (b) If yes. whether in Central/State Govt/Union Territory Govt. (Write clearly)
14. Professional Training :

Organisation	Period		Details of Training
	From	To	

15. (a) Are you qualified at GATE 90 :
    (b) If qualified. please give the percentile score :
16. Employment Record :

Name & address of employer	Period of service		Designation of the post held/ Name of Estt.	Scale of pay of each post	Detailed description of work*	Reason f leaving
	From	To				

* Separate sheet may be attached if necessary.

17. Field of Special Interest :
18. List of Papers Published :
19. Are you under any contractual obligation to serve Central/State Govt/PSU/Autonomous Body? If so. give details:
20. Details of relatives already employed in DRDO :

Name of Relatives	Relationship	Lab/Estt. in which employed	Post Held

21. Have you applied for any post in DRDO during the past two years? If yes. give particulars:

Sr. No.	No. and Date of Advt.	Name of Post/Discipline	Date of Interview	Rema

22. Any other information you may wish to add (Use separate sheet if necessary)
23. Declaration.

I declare that the foregoing information is correct and complete to the best of my knowledge and belief and nothing has been concealed torted. If at any time. I am found to have concealed/distorted any material information, my appointment shall be liable to summary without notice/compensation. I will, if and when required, take up duty in the discharge of government assignments anywhere in India

Place :

Date :

Signature of Candidate

------davp 91/9 ------

CLASSIFIED ADVERTISEMENTS

JAWAHARLAL NERHU UNIVERSITY

NEW DELHI

ADVT NO. A&E-II/2/91

JNU has openings for faculty positions at arious levels that is Professors, Associate Professors and Assistant Professors in the areas of specialization indicated against each:

SCHOOL OF INTERNATIONAL STUDIES

. Professor in American Studies/West European Studies.
2. Professor of South Asian Studies with specialisation in domestic politics.
3. Professor of South Asian Studies with specialisation in foreign policy.
4. Associate Professor of South Asian Studies.
5. Assistant Professor of South Asian Studies.
6. Assistant Professor in Economic Diplomacy.

SCHOOL OF SOCIAL SCIENCES

7. Assistant Professor in Ancient Indian History (leave vacancy)
8. Assistant Professor in Medieval Indian History.
9. Part-time Teachers—one each in Medieval Persian, Tamil and Bengali
10. Associate Professor in Geography with specialisation in either Social Geography of India or Regional Development with special reference to ecological consequences of industrial and agricultural development in India.
11. Assistant Professor in Geography with specialisation in Historical Geography with special reference to the Urban-industrial geography of India.
12. Assistant Professor in Geography with specialisation in computer application to cartography and ability to handle teaching and research in computer-aided cartography.

SCHOOL OF LANGUAGES

13. Professor in Urdu

SCHOOL OF ENVIRONMENTAL SCIENCES

14. Professor in Physics — with specialisation in studies in the effect of environmental perturbations on atmospheric processes, application of microwave techniques to environmental problems.
15. Associate Professor/Assistant Professor in Remote Sensing Applications - with specialisation in Remote Sensing techniques to environmental problems.

SCHOOL OF COMPUTER & SYSTEMS SCIENCES

16. Professors
17. Associate Professors
18. Assistant Professors

CENTRE FOR BIOTECHNOLOGY

19. Professor/Associate Professor of Genetic Engineering
20. Associate Professor of Immunotechnology.
21. Associate Professor of Biochemical Engineering/ Fermentation Technology

ESSENTIAL QUALIFICATIONS

For Professor (a) An eminent scholar with published work of high quality, actively engaged in research. About ten years experience in teaching and/or research in the area of specialisation indicated against each. Experience of guiding research at doctoral level. OR (b) An outstanding scholar with established reputation who has made significant contribution to knowledge.

For Associate Professor: Good academic record with doctoral degree or equivalent published work in the area of specialisation indicated against each. Actively engaged in research or innovation in teaching methods or production of teaching materials. About five years' experience with minimum three years as lecturer or equivalent position.

For Assistant Professor/ Pàrt-time teachers: Master's degree in the relevant subject with at least 55% marks or its equivalent grade and good academic record.

For Post No. (6): Master's degree in Economics/Political Science/ International Relations with atleast 55% marks or its equivalent grade and good academic record.

Note: For the post of Assistant Professors the candidates should have qualified the eligibility test as prescribed by the UGC. However, the following categories of candidates have been exempted from appearing in the eligibility test: (a) those who have passed the UGC/CSIR JRF examination; (b) those who have already been awarded Ph.D., M.Phil. degrees; (c) those who have been awarded M.Phil upto 31.3.1991 and will be awarded Ph.D. upto December, 1992.

DESIRABLE QUALIFICATIONS/ RELEVANT SUBJECTS/ SPECIALISATION:

For Post No.(1) Specialisation in the 20th century U.S. foreign policy, as well as social, economic and political developments in the United States and/or specialisation in contemporary European politics, foreign and security policies and development in European Community and Scandinavia. **For post No.(2)** (a) Master's degree in History/Political Science/Economics/Sociology; (b) Atleast ten years' research/ teaching experience in domestic politics of any one or more South Asian Country/Countries, (preferably Pakistan). **For Post No.(3):** (a) Master's degree in History/Political Science/Economics/Sociology; (b) Atleast ten years' research/teaching experience in foreign policy of any one or more South Asian Country/Countries. **For Post No. (4):** (a) Master's degree in History/Political Science/Economics/Sociology; (b) Atleast five years research/teaching experience on Sri Lanka. **For Post No. (5):** (a) Master's degree in History/Political Science/Economics/Sociology; (b) Ph.D. in South Asian Studies; (c) Atleast two years teaching and/or research experience in Bangladeshi studies with proficiency in Bengali. **For Post No.(6):** (a) Ph.D in Economic Diplomacy/International Economic Relations/International Political Economy; (b) Evidence of Post- doctoral research work in the fields described above; (c) Some teaching/research experience. **For Post No. (7):** Specialization in Ancient History of a Region in Peninsular India with evidence of ability to handle primary sources in the language of that region. **For Post No. (8)** Ability to teach the history of medieval non-Indian Societies. **For Post No.(9- For Medieval Persian):** Knowledge of Medieval Persian. **For Post No. (10), (11) & (12):** (a) First or high second class M.A./M.Sc. m Geography or equivalent qualification; (b) Proven evidence of published work in the area of specialisation. **For Post No. (14):** Doctoral Degree in Physics. Experience of teaching and research in environmental field. **For Post No.(15):** Doctoral Degree in Earth Sciences or Physics with adequate research experience in the application of remote sensing techniques to environment related problems. **For Post No. (16):** Broad expertise and active association in the development of computer science programme of higher institute of learning. Specialisation: Data bases, Natural language processing, Operations research, Numerical analysis, Parallel processing, Artificial intelligence and Expert systems. **For Post No.(17):** Good experience of teaching Computer Science Courses and evidence of active association in computer science programme of a higher institute of learning. **For Post No.(18):** Basic degree in Computer Science and ability to teach varied courses. **Specialisation For Post No.(17) & (18):** Software engineering, Operating systems, programming languages and compilers

Theoretical computer science/ AI and Expert system, Graphics and image processing, computer architecture, computer network, CAD/CAM, Parallel processing, VLSI, Data bases. **For Post No.(19):** Doctorate degree in Chemistry/Bio-Chemistry/ Genetics/Microbiology/Life Science. Significant contribution on engineering or eukaryotic genes. **For Post No.(20):** Doctorate degree in Chemistry/Biochemistry/Immunology. Experience of hybridoma production and use of monoclonal antibodies for immuno- chemical analysis. **For Post No. (21):** Doctorate degree in Biochemical/Chemical Engineering. Experience of scaling up of fermentation processes.

SCALE OF PAY: Professor : Rs.4500 - 7300
Associate Professor : Rs.3700 - 5700
Assistant Professor : Rs.2200 - 4000

For Part-time Teachers: Honorarium per month shall be Rs.1000/- (for 4-6 hours per week) and Rs.1500/- (for 7-10 hours per week).

The University on the recommendations of the selection committee reserves the right to fill up the advertised positions at lower levels and also consider the names of suitable candidates who may not have applied. Any of the qualifications/ experience may be relaxed at the discretion of the University.

15% and $7\frac{1}{2}$% of the posts of Assistant Professors are reserved or SC and ST candidates respectively.

Application forms may be obtained free of cost in person or by sending a self-addressed envelope (23cmx10cm) duly stamped of the value of Re.'1/- to the Deputy Registrar, (Academic & Establishment-II), Jawaharlal Nehru University, New Delhi 110067. The applications in the prescribed form complete in all respect duly forwarded by the competent authority (for those in service) should reach this University latest by **27th May, 1991**.

UNIVERSITY COLLEGE OF MEDICAL SCIENCES & GURU TEG BAHADUR HOSPITAL, SHAHDARA,

DELHI - 110 095.

Advt. No. MC/ESTAB./2/11/91-II

Applications on the prescribed form are invited for the following teaching posts to reach latest by 31.5.1991

(1) Professors: Rs. 4500-7300 – One each for the Departments of Anatomy, Physiology, Medicine, Paediatrics and Psychiatry

(2) Readers: Rs.3700-5700 Two posts for the Department of Biochemistry*; One post each for the Departments of Physiology/Bio-Physics, Medicine, E.N.T., Anaesthesiology, Radiology, and Pathology.*

(3) Lecturers: Rs. 2200-4000 - Two posts for the Department of Anaesthesiology and Two Posts for the Department of P.S.M. out of which one is temporary; One post each for the Departments of Biochemistry, Physiology, Pharmacology*, Paediatrics, Dermatology & STD, Forensic Medicine (Temporary), Orthopaedics (Temporary), Dentistry (Temporary), & Radiology (Temporary).

E.Q. for Professors, Readers and Lecturers: P.G. in the subject concerned as included in the Schedules of Medical Council of India Act 1956/Ordinance XXIV of the University of Delhi. For Non-Clinical Departments persons possessing M.Sc. with Ph.D/D.Sc. in the subject concerned will also be eligible.

Experience required: Professors: 5 Years as Reader/Associate Professor, **Reader:** 3 Years as Lecturer/Asstt. Professors, **Lecturers:** 3 years as Demonstrator/Tutor/Registrar/Resident out of which one year after P.G.

* All those candidates who have applied for any of these posts in response to earlier advertisement of the College appearing in July, 1990, and for which selection has not so far been held, need not apply again. However, they may intimate the College if they still wish to be considered, in which case they may, if required, update their Bio-data

All posts carry usual allowances at the rates prescribed by the University from time to time.

The prescribed application form can be obtained from the office of the University College of Medical Sciences & G.T.B. Hospital, Shahdara, Delhi-110 095, personally or on written request alongwith a self addressed envelope of size 28 cm. x 13 cm. with postage stamps worth Rs.2/-. The cost of one form is Rs. 2/- which can be sent, if required, by post, by Indian Postal Order drawn in favour of the Principal, University College of Medical Sciences, Delhi-110 095.

Residential accommodation in the campus may be possible to certain extent depending upon the availability of the same.

PRINCIPAL

ANNA UNIVERSITY

MADRAS 600 025

ADVERTISEMENT NO.25700/L3/90-2
Dated 21.4.1991

This has reference to the Advertisement No.25700/L3/90 dated 22.11.90 in the Hindu, Indian Express and University News calling for applications for filling faculty positions in Anna University. The following revisions are notified to the information and instructions issued to the candidates.

Shri Sant Gajanan Maharaj College of Engineering

Shegaon (C.Rly) 444 203.

*** WANTED ***

Applications on plain paper with full Bio-Data accompanied by attested certificates of qualification, experience are invited for the following vacant posts along with Cross IPO/DD for Rs. 10/- drawn in favour of Principal, SSGMCE, Shegaon 444 203, within 20 days from the date of published Advertisement.

Sr. No.	Depts.	POSTS		
		Prof.	Asst Prof	Lecturer
1	Electronics and Industrial Electronics Engg.	04	09	10
2.	Computer Engg/ Computer Science	02	03	05
3	Electrical/Electrical Power System Engg.	01	03	05

Pay scales and reservations as per AICTE and Govt. of Maharashtra norms.

Higher start will be offered to qualified and experienced staff.

Dr. D.G. Wakde
PRINCIPAL

S.S. Patil
CHAIRMAN

1) Minimum age limit will not be insisted on for all positions.

2) In the case of Lecturers in Science and umanities/Assistant Professors and rofessors, FIRST CLASS in the Master's egree or Bachelor's Degree level will not e insisted upon where the qualification rescribed is a Ph.D. Degree, provided the andidate possesses Post-doctoral experience in highly reputable institutions and ublication in reputed journals respectively.

In the case of Lecturers in Engineering nd Technology, First Class Bachelor's deree will not be insisted upon, provided the andidate possesses a First Class Master's egree in the appropriate branch of Enineering/Technology and publications in eputed journals.

Only those who were not eligible earlier or appointment to the posts advertised in he advertisement cited except for the posts n Chemistry, Aeronautical Engineering, Automobile Engineering and English but ire eligible because of the above changes, nay obtain application form from the Registrar, Anna University on requisition with Rs. 20/- Postal Order drawn in favour of the Registrar, Anna University, Madras-25 and dated not earlier than 22.4.91.

The completed application should reach the Anna University office on or before 15.5.91.

REGISTRAR

REGIONAL ENGINEERING COLLEGE

SILCHAR (ASSAM) 788 010

Dated Silchar, the 19th April/91.

ADVERTISEMENT No:1/91(Estt.)

Applications are invited from the citizens of India for the post of Principal, Regional Engineering College, Silchar in the scale of pay of Rs. 6300-200-7300/- (Revised) P.M. with benefits of contributory provident fund and other allowances as admissible under the Rules. The appointment will be made on term basis of 3 (Three) years at present with the possibility of renewal depending upon the merits of the case. The retirement age for the post will be 60 (Sixty) years.

Qualifications:- Essential = 1 Ph.D. with Ist class degree at Bachelor's or Master's level in Engineering/Technology or Applied Sciences.

2. At least 15 (Fifteen) years experience in two or more of the following fields :-

(a) Teaching at an institution of university standard.

(b) Research in a recognised institution or organisation.

(c) Industry including Govt. departments in a Senior Executive position.

(d) Planning and administration of technical education.

At least 5 (five) years of experience should be in teaching in an Engg. Institution of university standard.

Desirable:- Administrative experience in a responsible position.

Note:- Candidates from Industry/Profession with recognised professional work of high standard recognised at National/International level equivalent to Doctrorate would also be eligible.

Job responsibility:- (a) Academic and administrative management of the institutions.

(b) Policy planning and providing academic and administrative leadership.

(c) Monitoring and evaluation of academic and research activities.

(d) Promotion of industry-institution interaction and R&D work.

(e) Providing consultancy services.

(f) Participation in Policy Planning at the Regional/National level for development of technical education.

Age:- Not more than 50(fifty) years as on Ist January, 1991. Maximum age limit in case of candidates of outstanding merit is relaxable to 55 (Fiftyfive) years.

Candidates may have to appear for interview at Gauhati, Silchar or Calcutta for which first class Railway fare by the shortest route will be reimbursed by the College for up and down journey on production of Railway ticket or Money Receipt. D.A. not admissible.

The authority reserve the right to fill-up or not to fill-up the post or to cali only selected candidates for interview after necessary screening. Interim correspondence in connection with the application will not be entertained.

5 (five) copies of applications in plain paper (Typed) giving full Bio- data, Date of Birth, Permanent and present address, Academic qualifications, Particulars of Publications, Professional experience, Details of present emoluments showing the scale of pay, Present basic pay, D.A. and other allowances together with a recent pass-port size Photograph and non-refundable Indian Postal Order of Rs.20/- (Rupees Twenty) and Rs.10/- (Rupees Ten) only for the candidates belonging to Schedule Caste/Schedule Tribe/Backwards communities etc. in favour of the Principal, Regional Engineering College, Silchar-788 010 should reach the undersigned on or before **10th June, 1991** alongwith the attested copies of certificates.

Candidates already in service should send their applications through their present employer or to submit "No Objection Certificate" from their employer at the time of application.

Principal & Secretary

BOARD OF GOVERNORS

UNIVERSITY OF KERALA

University Buildings, Thiruvananthapuram

No.PR.1/5872/(12 (a)/91 **Dated : 17-4-1991**

NOTIFICATION

It is hereby notified that Notification No. PR. 1/5872/12/91 dated 6.4.1991, inviting applications for appointment to various posts, stands modified as follows:-

Sl.No.	Name of Department	Name of post	No.of posts	Community for which post is reserved
4	English	Lecturer	1	SC/ST
6	Library and Information Science	(i)Professor	1	Ezhava
		(ii) Reader	1	Open Merit
19	Sociology	Reader	1	Ezhava

The last date for receipt of applications in respect of the above posts has been extended to 25th May, 1991.

Sd/-

D.P.D.-IN-CHARGE OF REGISTRAR

REFERENCE AND RESEARCH TOOLS

BIBLIOGRAPHY OF DOCTORAL DISSERTATIONS

Invaluable reference for those seeking to register for a Doctoral Programme

The bibliography is classified by subjects and covers all the disciplines in which a doctoral degree is awarded by the Indian Universities. Each entry gives complete bibliographical details, viz., name of the research scholars, title of the thesis, university/institute where the research was conducted, years of registration and award of degree, availability note—whether the thesis is available in the university library/department concerned/university office and the name and complete address of the guide/supervisor.

Comprehensive and exhaustive as the bibliograp is, it not only reports the research being conducted the university centres, but also includes research w done at the institutions of national importance, like t IITs, institutions deemed to be universities, like t Indian School of Mines, CSIR Laboratories as also t research establishments connected with ICAR a ICMR.

The bibliography is indeed a measure of the resear output of the country.

HARDBOUND

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Physical Sciences	Rs. 120.00
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Social Sciences & Humanities	Rs. 90.00
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Natural & Applied Sciences	Rs. 125.00
Social Sciences & Humanities	Rs. 90.00
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Natural & Applied Sciences	Rs. 130.
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1980-81	
Natural & Applied Sciences	Rs. 180.
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Natural & Applied Sciences	Rs. 225.
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Natural & Applied Sciences	Rs. 250.
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1983-84	
Natural & Applied Sciences	Rs. 320.
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1986-87	Rs. 325
Natural & Applied Sciences	
Social Sciences & Humanities	Rs 245

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Address Enquiries to:

Under Secretary (Publications)
ASSOCIATION OF INDIAN UNIVERSITIES
AIU House, 16 Kotla Marg.
New Delhi-110002
Telephone : 3310059, 3312429, 3313390, 3312305
Telex: 31-66180 AIU IN **GRAM: ASINDU**

INDIAN VETERINARY RESEARCH INSTITUTE
IZATNAGAR - 243122, BAREILLY, U.P.

ADMISSION NOTICE 1991-92

A Competitive Written Examination for admission to the Master's and Doctoral Degree Programmes starting m **September, 1991** in the following disciplines, will be held at this Institute on Wednesday, the **17th July, 1991.** e written test will be followed by interview which will be **held on July 18, 19 and 20, 1991 :**

A. DOCTORAL PROGRAMME (Ph.D.)

Animal Breeding
Animal Nutrition
Biochemistry
Livestock Products technology
Veterinary Bacteriology
. Veterinary Gynaecology & Reproduction
. Veterinary Pathology
. Veterinary Surgery

2 Animal Genetics
4. Animal Physiology
6. Extension Education
8. Poultry Science
10. Veterinary Immunology
12. Veterinary Parasitology
14. Veterinary Medicine
16. Veterinary Pharmacology
18. Veterinary Virology

LIGIBILITY

(i) At least **60% marks in aggregate** (55% for SC/ST) in Master's Degree Examination in the relevant subject.

(ii) A good knowledge of English is essential.

B. MASTER'S PROGRAMME (M.V.SC./M.Sc.)

Animal Genetics & Breeding
Animal Physiology
Biochemistry
Biotechnology
Extension Education
1. Livestock Products Technology
3. Veterinary Bacteriology
5. Veterinary Gynaecology & Reproduction
7. Veterinary Pathology
9. Veterinary Public Health
1. Veterinary Surgery

2. Animal Nutrition
4. Avian Diseases
6. Biostatistics
8. Epidemiology
10. Livestock Prod.& Management
12. Poultry Science
14. Veterinary Immunology
16. Veterinary Medicine
18. Veterinary Parasitology
20. Veterinary Pharmacology
22. Veterinary Virology

LIGIBILITY

(i) At-least **60% marks in aggregate** (55% for SC/ST) in Bachelor's Degree in Veterinary Science/Agriculture (with Animal Science as elective)/ Statistics. The detailed eligibility qualifications are available in the Information Bulletin.

Contd.

HOW TO APPLY

Information Bulletin containing application form can be had personally from the University Office of Institute on cash payment of **Rs. 15/- at University Counter** on any working day between **11.00 AM to 1.00 PM** **2.00 PM to 3.30 PM** or through post by sending requisition to the **Assistant Administrative Officer (Acade** **IVRI,Izatnagar-243122, District Bareilly (U.P.)**, along with a **Crossed Bank Draft** for **Rs. 25/-** for each form, dr in favour of the **Director, IVRI, Izatnagar**, payable at **State Bank of India, CARI Branch (Code No. 70** **Izatnagar, U.P.** accompanied by a Self-addressed unstamped envelope measuring 28 cm x 20 cm.

Note:

i) 60% marks will be considered equivalent to an OGPA 2.10 out of 3.00; 2.80 out of 4.00; 3.50 out of 5.0 7.00 out of 10.00 GPA systems.

55% marks will be considered equivalent to an OGPA 1,94 out of 3.00, 2.58 out of 4.00, 3.23 out of 5.00 and 6.45 out of 10.00 GPA systems.

ii) Candidates who are appearing in the qualifying examination prescribed for admission to a partic programme, may also apply to appear in the Competitive Examination provided they obtain the pro passing the qualifying exam. before appearing in the written examination.

(iii) A candidate may indicate two disciplines of his choice in order of preference in the column provide the Application form according to the eligibility qualifications.

(iv) 15% and 7.5% seats are reserved for SC and ST candidates, respectively.

(v) The SC/ST candidates appearing for Written Examination will be paid travelling allowance limited to Class Railway fare both ways on production of Caste Certificate, in original, and evidence of jou performed.

(vi) Final selection will be based on academic career, performance in the Competitive Examination Interview.

(vii) The venue, date and time table for examination/interview are available in the Information Bulletin.

viii) No. of Seats: Seats in each discipline will normally be restricted to 2-5 subject to variation keeping in the facilities in concern discipline at the time of admission.

(ix) Financial assistance in the form of IVRI Fellowship (Junior/Senior) shall be offered to the sele students on certain terms and conditions.

(x) Application forms will be issued from 15.5.1991 to 17.6.1991.

(xii) Last date for receipt of the application forms duly filled in is **17.6.91.** either by post or on counter.

H.C.Trip

SCIENTIFIC COORDINATOR (U

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23 MAY 1991
C.F.T.R.I., MYSORE

ISSN-0566-2257

University News

DAY, MAY 13, 1991 Rs. 2.50

EIGHTEENTH CONVOCAT
YANA AGRICULTURAL UNIVERSIT
26th MARCH, 1991

Shri Dhaniklal Mandal, Governor of Haryana and Chancellor, conferring the Degree of Doctor of Science (Honoris Causa) on Shri Chandra Shekhar, Prime Minister at the convocation of Haryana Agricultural University. Dr. A.L. Chaudhry, Vice-Chancellor, is seen at the extreme left.

ANNAMALAI UNIVERSITY

NOTIFICATION

Applications are invited for admission to the following courses for the academic year 1991-92.

		Cost of Aplication Form & Prospectus	
1.	B.E./B.E. (Chem.) Degree	Rs. 35/-	
2.	B.E. Degree (Part-time) **Branches:** 1. Civil, 2. Civil & Structural, 3. Mechanical & Production, 4. Electrical & Electronics; and 5. Chemical.	Rs. 35/-	
3.	M.E./M.E. (Chem.) Degree (Regular & Part-time) 1. Water Resources Engineering and Management (Part-time only), 2. Environmental Engineering (Part-time only), 3. Structural Engineering (Regular & Part-time), 4. Geo-Technical Engineering (Regular only), 5. Thermal Power Engineering (Regular only), 6. Production Engineering (Regular only), 7. Power System Engineering (Regular & Part-time); and 8. Chemical Engineering (Regular & Part-time).	Rs. 35/-	
4.	M.C.A. Degree (Master of Computer Applications)	Rs. 50/-	
5.	Post B.Sc. Diploma in Computer Science and Applications	Rs. 35/-	
6.	B.Sc. (Ag.) Degree	Rs. 35/-	
7.	M.Sc. (Ag.) Degree **Branches:** 1. Agronomy, 2. Agricultural Entomology 3. Microbiology, 4. Plant Pathology, 5. Soil Science and Agricultural Chemistry 6. Agricultural Economics, 7. Genetics and Plant Breeding; and 8. Horticulture.	Rs. 35/-	
8.	B.Pharm. Degree	Rs. 60/-	self
9.	D. Pharm.	Rs. 40/-	finan
10.	B.Sc. (Nursing)	Rs. 50/-	cour

The application alongwith prospectus can be had from the REGISTRAR, ANNAMALAI UNIVERSIT ANNAMALAINAGAR-608 002 on payment of amount indicated against each course in person or by sendin demand draft drawn in favour of the REGISTRAR, ANNAMALAI UNIVERSITY payable on Indian Bank Bank of Madura at ANNAMALAINAGAR or State Bank of India at CHIDAMBARAM alongwith a self-a dressed envelope of size 30 cm x 13 cm stamped to the value of Rs. 1.80 (for B.E./B.Sc. (Ag.) a self addressed envelo of size 40 cm x 27 cm stamped to the value of Rs. 5.00) with the name of the course for which the application for is required superscribed boldly on the envelope. The name of the course should be clearly indicated in t requisition letter. The application form together with the prospectus will be issued from 10.05.1991.

The last date for receipt of filled in applications by the University is as follows:

1.	B.E./B.E.(Chem), B.Sc. (Ag.) B.Pharm, D.Pharm and B.Sc. (Nursing)	...	05-06-1991
2.	M.C.A. and Post B.Sc. Diploma in Computer Science and Applications	....	14.06.1991
3.	B.E. (P.T.), M.E./M.E.(Chem.) (Regular & Part time)	....	14.06.1991
4.	M.Sc. (Ag.)	....	30.06.1991

The University will not be responsible for any postal delay.

No.K2/4/91
Annamalainagar
Dated 30-4-1991

Dr. PR. KARPAGAGANAPATHY
REGISTRAR

28 MAY 1991
MYSORE

UNIVERSITY
NEWS

L. XXIX MAY 13
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Weekly Chronicle of Higher
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TINDER SINGH

TEACHER DEVELOPMENT
A New Concept

Sunil Kumar*

Within the teaching profession and beyond it, few topics evoke such a ready response as the professional development of teachers. Nearly everyone – whether a teacher, educational administrator, policy planner or advisor – seems convinced of its value and recognises its importance in bringing about an improvement in the teaching-learning activities in our educational institutions. However, it is a strange irony that there is little agreement among those involved in the profession of teacher preparation regarding what term to use to refer to the initial preparation of teachers as also to their later improvement. 'Teacher training' and 'teacher education' are the two terms used widely to denote both pre-service and in-service activities. The problem arises because for some, these terms indicate a distinction while others use them interchangeably, as synonyms. While it is true that in recent years it has become fashionable to use the term 'teacher education' rather than 'teacher training', more confusion has now been added to the scene by the introduction of yet another term to represent the area of teacher preparation: 'teacher development'. In this context, the question, which needs to be discussed is why new terms are being introduced in the field of teacher preparation – whether it is merely a trend towards the proliferation of jargon, or whether the change in terminology reflects a move towards conceptual clarification.

Each of these terms carry different connotations. 'Training', it is pointed out, is like 'telling'. The term training evokes the notions of drill, practice and exercise and is considered to promote the development of standard or routine performance. 'Education', on the other hand, is considered to be something more than the acquisition of practical skills: in the educating process the individual is enabled to understand and interpret knowledge, acquire sound reasoning skills and the ability to make reasoned judgements and decisions.

The terms 'training' and 'education' thus, imply two different views on teaching and therefore, teacher preparation too, has been looked at and analysed from two different perspectives. 'Training' is considered a narrower concept than 'education' and it is emphasised that teachers should be educated rather than trained. Teaching itself, it is pointed out, involves making informed choices and as such has a greater correspondence with 'education'. Inherent in this idea, is the view that 'teaching' is an activity which occurs in a complex, uncertain environment. Within this environment, there are no absolutes, no right answers. Different techniques work well for different teachers and in different situations. Since all the situations in which teachers would find themselves cannot be specified and nor can all the teacher and student characteristics that determine the efficacy of various techniques be identified, teachers cannot be trained to use every appropriate method and technique which could guarantee effective teaching. Therefore, professional judgement and decision-making must be exercised in order to guide the provision of appropriate instruction. Certainly there are basic 'tools of the trade' or specific classroom techniques and procedures which teachers are expected to be trained in. However, teaching is not the mechanical application of these 'tools' in accordance with a set of rules. Instead, effective teaching is considered to be a process during which teachers need to make reasonable judgements and decisions about the appropriate 'tools' to use in any particular situation

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The recent introduction of the notion of 'development' provides yet another dimension to the task of teacher preparation. In the context of the dramatic changes that have taken place in our knowledge of pedagogical content and skills during the last couple of decades and also as a result of continuing advances in pedagogy, it is felt that teachers need to constantly update themselves, adapt themselves to the ever-changing teaching-learning needs and at the same time, adopt new roles and responsibilities. It is recognised that mere enhancement of teachers' pedagogical knowledge and skills is not sufficient to fulfil these new demands. Instead, there is now a growing awareness that opportunities should be made available for teachers to acquire new knowledge and competencies on their own and to develop in teachers the qualities of intuition, flexibility and adaptability – in other words, the attitudes which would enable them to seek their own solutions to the problems they face instead of looking for ready-made solutions. The need is now felt for making teachers aware of their own strengths and weaknesses as classroom practitioners and to inculcate among them the habits of 'introspection' and 'reflection' – the qualities which enable a teacher to analyse and interpret on his own his teaching in the classroom. This implies a concern for the human resource development of teachers with an emphasis on developing the 'self' of the teacher – the 'self' which teachers can later use as an instrument to effect further learning and development.

Thus, while the obvious importance of providing 'education' and 'training' in order to improve teachers' classroom practice is not undermined, it is felt that professional development programmes should not be as much preoccupied with this aim as they currently are. For, paradoxical though it may sound, preoccupation with the maintenance of teachers' pedagogical knowledge and skills alone and a focus on meeting their immediate practical needs, is not likely to result in greater teacher effectiveness, as much as would a focus on the developmental concerns of teachers.

The confusion of terminology that thus exists in the field of the professional development of teachers is an indication of emerging issues and concerns in the field of teacher preparation. The different terms that are being used to describe professional development activities for teachers – 'teacher training', 'teacher education' and 'teacher development' – obviously indicate differing perceptions about the role and function of professional development programmes. While it is clear that any one term can be (and is, in fact being) used to include the other two, 'teacher development' has come to be widely used in the present context a
because of the realisation that it is 'development'
needs emphasizing in the current conceptualisat
teacher preparation.

Therefore, an expanded view of profes
development activities needs to be adopted. R
than seeing 'training', 'education' and 'developme
irreconcilable alternatives to one another, it needs
recognised that they all have distinct and specific
to play in the preparation of teachers. A major t
the field of teacher preparation then, is to find a
propriate balance among these seemingly differen
ments. Each element has its own place. For exa
training, while undoubtedly a narrower concept
education, is useful in learning the practical sk
teaching. Similarly, education without any empha
readily usable skills makes little sense. In fact,
education and training can be provided simultane
in professional development programmes. There
reason why those elements of a course which are
posed to lead to 'education' cannot be taught in
that they also bring about satisfactory profess
'training'. Correspondingly changes can be br
about in the case of those elements of a progra
which are supposed to provide 'training'. The g
professional development activities can be educa
professional person and at the same time providin
'training' without which the person cannot operat
professional. Similarly, it should be possible to ca
the personal growth and developmental needs
individual if we adopt an individual within an orga
tion approach. For the needs of the individual an
instructional system are not in conflict with each
Both are significant and important in their own righ
it is only through the development of the indiv
teacher that the instructional system can be impro

TO OUR READERS

**Knowledgeable and perceptive as
they are, our contributors must not
necessarily be allowed to have the
last word. It is for you, the readers, to
join issues with them. Our columns
are as much open to you as to our
contributors. Your communications
should, however, be brief and to
the point.**

Why College Teaching Will Not Improve?

Philip G. Altbach*

In the past year or so, there has been a drumbeat of ncern about the state of teaching in America's col- es and universities. Stanford's President Donald nnedy has been joined by Ernest Boyer's Carnegie undation, *U.S. News and World Report* and the states Virginia and Colorado, among many others, in ticizing the quality of teaching and the attention paid academic institutions and their faculties to instruc- n. Teaching, they say, is the primary mission of a llege or university and it has been neglected. Faculty embers, they say, do not pay attention to their teach- g. There is inadequate assessment of teaching and, ere it exists, it is not taken very seriously. In large iversities, too much of the undergraduate teaching is ne by teaching assistants and junior staff and not by e senior faculty.

There is more than a little truth to these comments. it the allegations are hardly new and they are exag- erated. More important, academe over the years has eated a complex hierarchy of activities in which aching falls somewhere in the middle. A professor bes not become nationally well known because he or e is a fine teacher, but because of visibility in research d scholarship. Despite this, surveys show that faculty end more time on teaching than on other activities d that, overall, they enjoy teaching.

Furthermore, when America's students are asked bout the quality of teaching, they almost invariably rate eir professors as good teachers. Students are, overall, atisfied with the quality of their education. Students do ot choose the most prestigious universities because of e quality of teaching but because of the reputation of e institution and its presumed cachet in the job arket. And reputation is achieved by faculty research roductivity.

Perhaps the current wave of concern will result in ore stress on teaching in faculty evaluation, better ssessment tools and greater attention to teaching in the reparation of Ph.Ds. All of this would be highly posi- ve and would improve the quality of American higher ducation. But let us not expect a revolution, or even a ajor change, in the orientation of the American cademic system. There are reasons — historical and contemporary — to explain the place of teaching in the academic hierarchy. The leaders of American higher education — the Kennedys, Books and others, have for years pressed their own faculties to compete for external funds — research grants. This the professors have done — often at the expense of a commitment to undergraduate instruction. These grants have added luster to the university, improved graduate instruction and at the same time have greatly benefited to the university budget.

Professors are promoted, at the top tier of institutions, much more for their research and publication than for their teaching. There are many reasons for this. Research and publication are what is nationally visible — the source of both the university's reputation and that of the individual scholar. Teaching is notoriously difficult to accurately and fairly measure — how do you evaluate doctoral-level monitoring versus verbal pyrotechnics to 200 undergraduates? Research and publication is symbolic of the creation as well as the dissemination of knowledge — since the 19th century a key function of universities. Teaching involves the transmission of knowledge. Creation is more valued and more visible than transmission.

One of most important reasons why teaching will not move to the top of the hierarchy is the academic marketplace. The seller's market of the past few decades is ending and the professors will have greater control over the conditions of academic work in the coming decade. It is a simple matter of demographics. There will be many more job opportunities in academe because of massive retirements and growing demand. There is already a shortage of young Ph.Ds in many fields and as a result salaries will be slowly bid up and the 'buyers' — the professors — will have more control over the terms and conditions of academic work. Without a massive shift in the mind-set of most Ph.Ds, many job applicants will demand modest teaching loads and opportunities for research. This is exactly what happened in the 1960s, when severe shortages of professors resulted in lower teaching loads—the very conditions that are now decried by the critics.

If there was ever a time for a shift in academic priorities, it was during the depths of the academic depression of the 1970s, when the professors had little bargaining power. It is highly significant to note that today's administrative reformers were encouraging the faculty to get research grants to help out with deficits in the budget. In the past few years, there has been

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renewal in the undergraduate curriculum – spearheaded, significantly enough, by many of the research-minded professors now under attack.

Part of the current agenda is an implied 'speed up' in academic work. Administrators are faced with several problems. There is now some 'price resistance' to the very substantial annual tuition increases of the past decade in the private sector and tremendous pressure on state budgets in public higher education. Administrators are trying to solve a part of the fiscal problem by getting more teaching from the faculty. It is not only improved quality that is called for, but more time spent in the classroom – higher teaching loads. This may reduce pressure on academic budgets but it bears absolutely no relationship to improving the quality of instruction. Few have suggested that professors should do less research and contribute less to the advancement of science and scholarship – and no one has encouraged professors to stop applying for research grants!

What has made American universities the envy of the world and the destination of one-third of the world's foreign students is science, research and scholarship – not high quality teaching. It must be kept in mind that America's rise to academic eminence in the past century has been marked by the transformation of American universities from an orientation to teaching exclusively to one which combines research, teaching and involvement with applied technology and service to the
Are today's reformers advocating that we retur
placidity and perhaps the *in loco parentis* of an
age? In today's world, when universities
countries as Japan, Korea and Taiwan have lo
American higher education as a model for co
research, teaching and the integration of the un
with economic development, we may be moving
the 19th century. This would inevitably have
implications for the American economy.

Teaching without question, is one of the key el
of any college or university. And there is no dou
there is much room for improvement. Student
have not vociferously complained about the qu
their instruction, should perhaps, take more
than they have in teaching. We do need better m
assessing teaching and we need to take teachin
seriously in evaluating academic work. And it m
a very good idea to ask professors who are not esp
productive in research and scholarship to teac
and to institute, as some have suggested, differe
academic responsibilities based on individual
patterns. We should neither expect nor deman
nificant change in the orientation and et
American higher education. There are many
why this is unlikely to happen and why it woul
error to try to implement even if it could be don

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Dr. Vijai
DIR

udit of University Teachers' Performance

M.Sulochana*

Audit is honoured and lauded by the honest while it nwelcome to the unscrupulous. The chief orienta- n of audit is not to unearth the mistakes for penalising to create an attitude to avoid doing wrong. The al audit examines the financial discipline followed by institution while performance audit in my view uld review scholastic discipline followed by univer- teachers. For financial audit there are set norms/ nciples usually referred to as financial code and audit mines deviations from such set standards and alerts nagement of dire consequences in case of inaction. t in the case of employees, there is no set perfor- nce code. More so, in the case of University chers. In the circumstances, evolving work ethics or rformance code assumes importance.

The main insurmountable embarrassment in en- avouring a scholastic exercise in evolving a perfor- nce code for university teachers is the apparent bility to specify vividly the structural relationship to definite something which the university teachers are geted to achieve. There would thus be no yardstick measure their performance. Blame-worthiness ong teachers and students would normally be the caping feature. This is mainly because university achers are neither totally nor even mainly responsible her for achievements or for failures of the students. niversity teachers only act as babysitters governing the udents during working hours of the kiddie home and us impart part-time parental care minus account- bility.

When we talk of performance audit, we presume istence of a performance budget and performance counting system of the academic work of university achers. But in the absence of such a system, an at- mpt to determine it though not exactly at least vaguely comes inevitable. The projected academic work of a niversity teacher can be set as best use of funds, time nd energy in enabling students to cross the glittering ortals of higher learning creditably. Extending the erception a little further, teachers have a responsibility increase productivity. In other words, teachers have grow more and more cost conscious, as the solution better productivity (more number of passes, first lasses and distinctions) is more with the teachers. Costs have little meaning or value until they are set against educational results and the results are weighed against the objectives. Costs in other words are only one side of the equation that links educational resources and inputs to education outputs and benefits. Fixing culpability on the teachers for the performance of students in the examinations looks to be the only solution in the circumstances but this again is not as simple as it looks.

Accountability

Accountability to the regularity and faithfulness for policies, programmes and performance is seldom welcome in general. University teachers are no exception. But the question is not whether it is welcome or unwelcome. The issue is how to fix accountability in case of qualitative work and how to determine a suitable yardstick to measure performance in terms of quality and output. Teachers' performance enjoys immunity against specific and deterministic measurement. Added to this confusion, the roles of teachers, students, society, government, and UGC are overlapping and therefore no one is solely and totally answerable to the deteriorating standards in higher education. In such a situation a well regulated and practicable system of accountability on the part of all parties, if strictly implemented may hopefully provide the answer.

UGC's role; University Grants Commission cannot just be ecstatic about verification of fulfilment of the physical norms by the university teachers like 180 working days, 100 teaching hours per subject, 40 hours of work load per week, etc. If only those formalities are overmphasised, the concept of accountability gets diluted. One can meticulously be fulfiling these physical norms and still be unanswerable. UGC would do well in reconciling these contradictions in the system.

Discontentment of teachers perhaps is the root cause for such a paradox. An exercise to eradicate discontentment though looped with serious inter-connected issues is inevitable.

Combating Discontentment of Teachers

An endeavour to unearth the genesis of frailty and vexation of teachers with a view to unravel would perhaps go a long way in recovering the status and attitude of teachers in general.

However, the causes for dissatisfaction are compli-

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cated and puzzling and may not yield to a systematic analysis for rectification. Certain remedies for the malady can however be attempted though they cannot absolve the concerned of their accountability.

At the outset it may be stated that teacher's position in the society should be uplifted by taking following measures :

Training

The teacher should be well trained by providing him opportunities at national and international levels to improve upon his stock of efficiency. This would enable him to maintain high standards of efficiency and work ethics. Though Academic Staff Colleges are performing this function to some extent, it is done more like a ritual. The scope, content and working of these centres should be enlarged so that they cater to the changing needs of the teachers. For instance a Commerce teacher may require the knowledge of Computers and for a Sociology teacher knowledg of Mathematics may prove to be helpful in dealing with some of the subjects. In the present system there is no facility for a teacher to acquire knowledge in the allied subjects.

Fat Salaries

He should be well paid and provided with all necessary facilities. With the revised UGC pay scales 1986, this lacuna is however plugged. But in the matter of provision of all necessary facilities, UGC's role is far from satisfactory. A well equipped room to enable him to pursue his research work or to prepare for his lessons in privacy without much publicity is an essential prerequisite for any teacher to stick on to the place of work which would, not only make him more efficient, conscientious and accountable but would also boost his morale.

Job Security

Perhaps carrot and stick policy is the panacea for all ills and this should work with teachers also. By making continuous, objective and constructive evaluation of teachers inefficient should be weeded out and efficient should be rewarded. Similarly courses for which there is no demand should be wound up. To achieve this, job security should not be granted but should be earned. This works well with new recruits. But while dealing with the existing staff with no demand for their courses/subjects, training or orientation in computers or any other modern courses allied to their main subject should be provided. They should once again become students of course. A good teacher is a student for ever! Education has no age bar. As already mentioned, Academic Staff Colleges should be geared up to cater to such special needs also. This process helps in shedding
weight by the universities (only when no fresh rec
ment is made in outdated courses/departments/fa
ties) and enables only the fittest to survive in
universities.

Closure of Departments

The recent painful revelations (Deccan Chron.
5.3.1991, p.3) of the appallingly low teacher stu
ratio in Tamil, Marathi, Kannada, French, Persian
departments of Osmania University are not a thing
laugh away. Following table may be of interest for
those concerned with higher education :

Department	*Enrolment in M A for Academic year 1990-9*	
	Previous	Final
Tamil	Nil	-1-
Marathi	-3-	-1-
Kannada	-9-	-3-
French	-2-	-5-
Persian	-2-	-3-

The above situation demoralises both the teach
and the pupils. The Osmania University, with the bl
ings of the UGC should shut down its doors for s
courses at least from the next academic year and de
the existing staff for more useful and relevant work.

Extinction of Traditional Courses

This surely leads to total disappearance of the s
jects or courses which have traditional, cultural, hist
cal, or literary values. But in India, students have a c
towards higher education for higher learning and so
status and parents do encourage their wards. Ope
of more and more distance learning centres with va
courses is the answer for all such aspirants. All
relevant, useful, and important courses should be ru
the universities.

The main cause of student unrest may be due to
dwindling opportunities and this in turn makes t
keep away from classes as, a degree would not ho
definite promise for a job. Added to this irrelevant
outdated syllabi make things worse.

The recent UGC guidlelines gave a green sign
all the universities to shed unwanted courses, an
encouraged introduction of new relevant courses w
definite promise to finance them. This if impleme
with right spirit would go a long way in arres
deterioration of values on the campus.

Attendance Menace

Presently, there is over emphasis on attenda
students for classes. Attendance certificate
them to appear for examination and draw their sch

hip money. A good teacher therefore in students' view ; one who certifies attendance of students for classes vhich were not held at all, or which were not attended t all. One who wishes to buy popularity or who is afraid f becoming notorious signs away the wrong attendance ertificates. Such an unscrupulous act also shields them gainst their deficiencies on teaching front.

To outwit the attendance menace, as mentioned earier, relevant and useful courses only should be conlucted by the universities, for which only interested and incere students should be admitted. Insistence on atendance would not, then, be required, since only those vho want to pursue their higher studies seriously would ake admission and attend classes. This automatically hecks students' indiscipline. Faith in the teacher vould improve and teachers would be venerated as in esteryears. Teachers feel important and get job satisaction. Their image gets a boost in the campus and in he society. They would not grumble then, to stay long n the place of work. Easy access to teachers and frequent interaction between them even outside the classroom also, would help development of total personality of the students. The teachers thereby would get a separate distinguished status in the society as shapers of the destiny of the nation and would enjoy perennial influence on the mind and character of the easily persuaded youth.

Manpower Planning

By planning personnel required by the nation in collaboration with industries, government and society and necessary reorientations made in the courses would ensure employment for almost all those who come out of universities. Delinking of degrees with jobs is automatically achieved as a person with M.A. History/Islamic studies degree would not grumble for not getting a job for he pursued the study for his own satisfaction, out of his own interest and with his own finances. Manpower required by the changing needs would be supplied by the universities which are wholly or partly financed by the government.

Examination Reforms

The memory based examination system and the question papers with wide choice (50% or even more) offered no challenge either to the teachers or to the taught. Consequently teachers and students lost interest in keeping abreast of the latest developments in their field of knowledge and became uncommitted and easy going. This system should undergo a metamorphosis . Lot of research has taken place in this direction, but implementation of its recommendations left much to be desired. The outlook of the students and the teachers should change for the better. The stupid marking system should be abolished. The concept of 'PASS MARK' should be abandoned.

In a recent examination, for instance, a problem in Advanced Accountancy was allotted forty marks and a student who could work out that problem would not have a problem in qualifying in that paper. In such a situation who would care to listen to a teacher for one full year who teaches logic in working out lengthy problems in at least ten to twelve chapters and tries hard to reorient the subject to practical utility. The only panacea in this case is to ban the traditional examination system and introduce continuous assessment system and grading system.

Recruitment of Teachers

The efficiency and influence of the teacher and the receptivity of the students are related to the whole gamut of education without due emphasis on human values. "Corrupt the teachers" it is said "and youth can corrupt the entire society".

The human values cannot be promoted and developed unless the teacher is fully equipped with the latest trends in the branch of knowledge he is expected to impart to the students. But when recruitment and promotion of teachers are being largely being made on considerations other than merit, the above achievement remains a mere mirage. As the units 35 and 54 of Section 3 of the *Challenge of Education: A policy perspective* (the document of the New Educational Policy) point out, there is widespread dissatisfaction with the process of selection and appointment of college teachers themselves. According to the document, merit is very often relegated to the background and it questions the wisdom of promotions purely on the basis of experience and seniority.

The teacher and the taught have together a noble task to perform. They are like the two sides of a coin. One does not exist without the other. There is a joint venture to produce a quality product. As such, the teacher has always to be alert, motivated, duty conscious and result oriented and dynamic. He has to be tenacious enough to bring at the best in him. There should be constant effort to improve his abilities and qualificatious, since the teacher is a student forever as the 'art is long and life is short'. In this context, the University Grants Commission has categorically recommended that the best talent should be attracted to the teaching profession with the offer of extremely beneficial remuneration. But benefits demand accountability too. The concept of accountability should be a thing for welcome by the faculty.

Only after appreciating and tackling the various disquieting issues in the realms of student discipline, teacher-student relationship, examination system, teachers' recruitment etc., mentioned above, accountability of teachers can be talked about.

Periodic Performance Review

Sri Balaswamy in his article"*Making the Teacher Accountable*" (The Hindu Dt. 5-8-1986. p.19) suggested periodic assessment of their performance for the attainment of academic excellence. However he has not mentioned the content, mode and implementation of such a periodic review.

A Mode of periodic performance review proposed hereunder merits serious consideration by the concerned authorities :

(i) A committee, consisting of two or more highly impartial and qualified persons endowed with a high degree of objectivity and fairness; one of them may be a senior teacher and the other a discerning and distinguished parent may be constituted.

(ii) The committee members should make their assessments individually and on an unscheduled visit to the classroom. The observations of the reviewers should be kept confidential in order to prevent unfair and corrupt practices or manipulations. The reports should be consolidated and communicated to the teacher alongwith the assessment report.

(iii) The students may also be asked to evaluate the teaching done in a year. The principle of fundamental importance in this aspect of evaluation is that 'where no learning has taken place there has been no teaching done'. The student evaluation can be done anonymously, but objectively, through a questionnaire. But it has to be ensured that there are no unwarranted complications.

(iv) In the absence of a review committee, two or more senior colleagues of the teacher may be asked to do the review anonymously.

(v) The teacher should be provided with all facilities for improving his capabilities.

(vi) The teacher's pay scales should make him the most envied person in society, giving him financial security and freedom from want. Such ample rewards, it is felt, should remove all opposition to the concept of accountability.

A satisfied teacher is apt to satisfy the student resulting in considerable change in the deplorable behaviour of the student. A teacher denied promotion deservedly due to him, can hardly be called a satisfied one though
free from wants, economically, financially and
The resulting mental tension is a hurdle for
to bring forth the best in him. A competent
tented nation can only be a reflection of an effic
contented teacher in the form of personified
nation of true knowledge on the lines of
'Guru - Shishya' relationship.

So, it would suggest that willingness to sub
accountability stems from compliance and
ment. There can however, be no dispute about th
for public accountability for the teacher and the
alike. Money serves as the fuel for committed
pliance to the requirements of the student com
and the society at large. At the same time, it sh
realised that money alone is not the sole criter
urge and expertise. It is an inducer to the inq
teacher to stir his innate initiative and drive for
lence. Such an attainment can then answer the
the common man who parts with his honestly
money as taxes to the trust of the governme
through it to the universities, to ask whether the
spent has yielded the desired results of enrichi
knowledge of the university output.

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EXPANDING KNOWLEDGE – SHRINKING BUDGETS
Acquisition of Foreign Books in Indian University Libraries

L.S. Ramaiah*

Books, readers and staff constitute the trinity of library. Books are the most important component of them. They make the private knowledge public. In them lies the soul of the whole past time. H.G. Wells, while speaking at an after dinner gathering, after the Second World War said that "Books are refuge and reservoir of power.... Men may suffer and men may die, but human thought embodied in science and literature goes marching on. Let us get back to enduring things. Let us get back to our books." Books are, therefore, the vehicles of knowledge and culture. They are the lifeblood of education. The ideas the books contain enrich the curriculum and the course contents and play a vital role in teaching and learning.

Gutenberg's invention of printing about 500 years ago made the book a crucial tool in the human ascendancy over poverty, illiteracy and superstition. Books link the past with the present and both the present and the past with the future. Books in their march, replacing the oral tradition, became the staple diet of the educators, researchers, teachers and learners. There is no substitute to books. They awaken and educate the users. No educational institution could be there without them. Thomas Carlyle, therefore, said that "the true university of these days is a collection of books." Book collections in university libraries are the fulcrum of university education. The strengths and weaknesses of university libraries have their impact on the standards and quality of university education.

Book Acquisition in University Libraries

University libraries acquire books, both Indian and foreign, throughout the year. Then, they process, preserve and lend them to readers. Book publishing in India is still in infancy. It has, however, suffered a serious setback in recent years. The number of books published in the country, which had been increasing during the 70s and early 80s and should have risen further following the expansion of educational facilities, began to decline. The total publications for the last one decade does not exceed 16,000 to 17,000 titles per annum. Most of the titles are either fiction or of religious character. Books of serious nature and of subject specialisation are fewer. This trend indicates that a crisis has been developing in book culture in this country.

Due to lack of appropriate books, Indian libraries are depending more and more on the imported books in the areas of science, technology, communication, social sciences, etc. The country has been spending around Rs. 60 crores annualy on the import of books alone. This figure is rising year after year for various reasons. The acquisition of foreign books is beset with various difficulties. However, this paper intends to deal with only three aspects concerning the acquisition of foreign books in Indian universities. They are: 1) Escalation of prices; 2) Increased conversion rates; and 3) Inelastic library budgets.

Escalation of Prices

During the last one decade the prices of books have trebled in the case of hardbacks and more than doubled even in the case of paperbacks. The costs of paper and labour have increased manifold in India and even in developed countries. The price rise in the case of hardbound titles between the years 1987 and 1988 taken from the Oxford University Press (OUP) Catalogues, as shown below, support of the point.

Hardback Titles From OUP Catalogues 1987 and 1988

Author	Title	1987 Price	1988 Price
		(in Pounds)	
1. Paton, G.W., ed.	A textbook of jurisprudence.	19.50	30.00
2. Glusker, J. & Trueblood, K.N.	Crystal structure analysis.	29.00	35.00
3. Weavers, J.J., ed.	Phanarozoic earth history of Australia.	55.00	65.00
4. Baumann, G., ed.	The written word.	20.00	27.50
5. Peacock, Ronald	Criticism and Personal taste.	10.00	22.50

The price rise in the case of paperbacks from 1986 to 1990 taken from the Cambridge University Press (CUP) Catalogues is provided below.

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*University Librarian, Ramesh Mohan Library, Central Institute of English & Foreign Languages, Hyderabad - 500 007.

Paperback Titles From CUP Catalogues 1986 and 1990

Author	Title	1986 Price (in Pounds)	1990 Price
1. Bynon, T.	Historical linguistics.	9.50	11.95
2. Radford, A.	Transformational syntax.	10.95	12.95
3. Lass, R.	Phonology.	8.95	10.95
4. Laslett, P. and Wall, R., eds.	Household and family in past times	17.50	25.00

The above tables amply indicate the enormous rise in the book prices in the Western world which are affecting the library budgets in Indian universities. Though the tables have shown the price-rise from 1986 to 1990 for want of catalogues of the earlier years the actual rise between the years 1980 to 1990 is still higher. Further, we have taken the samples from the OUP and CUP who are more academic publishers but not completely commercial publishers.

Increased Conversion Rates

Escalation of the prices of the foreign books is one aspect and the increase in their conversion rate vis-a-vis the Indian rupee is yet an another one which is sharply cutting into the library budgets. The purchasing value of the rupee during the last one decade has alarmingly declined. Statistics of the conversion rates from the year 1981 to March 1991 which are tabulated below speak volumes on the matter.

The table shows the value of British pound has increased by 224 per cent, American dollar by 209 per cent, Deutsche mark by 340 per cent, Dutch Giulder by 333 per cent, Swiss franc by 336 per cent, Australian dollar by 146 per cent and French franc by 235 per cent.

Due to the escalation of prices and increase in the conversion rates, the intake of books in the Indian university libraries has considerably declined. Most of the libraries instead of purchasing the library editions are resorting to the paperbacks which cannot withstand the wear and tear of use. Even here they have reached a stage because of the price boom of the serials, where it has become difficult to purchase even the paperbacks with ease. During the last one decade, the university library budgets haven't increased in proportion to the above said rises.

Inelastic Library Budgets

During the last forty years, there is a proliferation of universities in India. Their number has increased from 20 in 1947 to 180 in 1990. The amount available for education during the last seven five year plans never touched even 5 per cent of the national budget. In the VII Plan, the educational budget was only 3.54 per cent: it shows that the budgetary provision for education has remained static and whereas the institutions who are sharing the budgetary provision have increased. The

Rise in Conversion Rates of Various Currencies During 1981 to March 1991 (in Indian Rupees)

	Currency	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	% of rise
1	British Pound	17.40	17.70	16.30	15.80	18.20	19.70	24.30	25.30	28.10	36.90	39.00	224
2	American Dollar	9.60	9.90	11.00	12.80	12.90	14.00	13.70	15.00	17.80	18.90	20.10	209
3	Deutsche Mark	4.00	4.20	4.20	4.30	4.90	7.00	8.20	8.10	9.60	12.30	13.60	340
4	Dutch Guilder	3.60	3.80	3.60	3.80	4.30	6.20	7.30	7.20	8.50	11.80	12.00	333
5	Swiss Franc	4.70	4.90	5.20	5.20	6.00	8.00	10.10	9.70	10.90	14.90	15.80	336
6	Australian Dollar	11.00	10.30	9.90	10.80	8.80	9.00	9.50	12.10	14.00	15.20	16.00	14
7	French Franc	1.70	1.50	1.50	1.40	1.60	2.10	2.40	2.40	2.80	3.80	4.00	235

university libraries are not at all in comparable position in matters of finance. The various commissions and committees like the Radhakrishnan Commission, Kothari Commission and the UGC Library Committee (1957) suggested various types of allocations to university libraries. No definite pattern of allocation of funds is discernible in the present allocation to university libraries when analysed in the light of recommendations of the commissions and committees. There are wide variations in what was recommended and what is provided. We furnish below an analysis of budgetary provision for 99 universities based on the data given in *Universities Handbook* 1985-86:

Number of University Libraries	Percentage of library allocation to total university budget
23	0-1 %
21	1-2 %
11	2-3 %
12	3-4 %
9	4-5 %
5	5-6 %
4	6-7 %
3	8-9 %
11	More than 10 %

The lowest allocation is 0.1 per cent and the average is 3-4 per cent of the total university budget. This indicates how poorly the university libraries are provided with finances to equip themselves with books and periodicals to make their collections viable both for teaching and research. To ease out the impoverished position, AIU suggested that upto 10 per cent of the university budget should be made available to libraries, whereas Prof. K.N. Raj, an experienced administrator and academician, suggested in his report on the Karnataka Universities that the libraries should be provided with atleast 20 per cent of the university's total budget. From the above discussion, two points emerge out. One is that the budgetary provision for books and serials should be increased from time to time and secondly, the university library budgets should be linked up to the university's total budget. Thus with the increase in the university's total budget there will be automatic rise in the budgetary provision to university library to offset the price- rise of the publications and the conversion rates.

Conclusions

1) The enormous rise in the prices of serials year after year is cutting into the university library budgets leaving less and less amounts for the purchase of books.
2) The library budgets should not be static but flexible to overcome the inflationary trends.
3) The library budgetary provision should be 20 percent of the total university budget.
4) The university libraries should have effective resource sharing, avoiding purchasing obsolete and outdated foreign titles.
5) There should be a comprehensive network of university libraries established for effective resource sharing and inter- library lending.
6) The university libraries should adopt specialisation in building of their collection in cooperation with other libraries in the area or region to avoid duplication and wastage.
7) Indian publishers should actively forge relations with the international publishers and purchase national copyright for publishing important foreign books in India at a cheaper price.
8) The foreign publishers should bring out cheaper editions of their books for the benefit of Third World countries.
9) Indian publishers and the Government should take proper care not to import remainders from the foreign book market and weeded out titles from foreign university libraries.
10) The university libraries should be provided with modern telecommunication facilities for obtaining bibliographical information about various documents from other sources.
11) Publishers and the governments should seriously think about evolving a pricing policy of books.

References

1. Chakrabarti, Ajit Kumar. **A treatise of book selection.** Delhi, D.K. Publishers, 1983.
2. Good Offices Committee. Circulars relating to the conversion rates from 1981 to 1991 March.
3. Inamdar, N.B. and Ramaiah, L.S. ed. **National Policy for University Libraries in India: Problems and Perspectives,** New Delhi, Concept Publishing House, 1989.
4. Prasher, ed. R.G. **University libraries in India: 1980 and beyond : Essays in honour of Prof. T.P. Saxena.** New Delhi, Medallion Press, 1990.
5. SAHAI, S.N. **Academic library system.** New Delhi, Allied, 1990.
6. Srivastava, Shyam Nath. **University libraries in India.** New Delhi, Sterling, 1980.

UNIVERSITY OF DELHI
DELHI 110 007

No.Estab.IV/Advt-129

Dated, April 30, 1991

Applications on the prescribed form are invited for the following posts in the University so as to reach the Registrar, University of Delhi, latest by May 31, 1991

1. AFRICAN STUDIES

Reader in Geography (1)

Special/desirable qualifications (if any):

(a) Doctorate Degree or published work on Africa;

(b) field work in Africa or visiting assignments at an African University;

(c) knowledge of an African language.

2. LAW FACULTY

Professors (2)

Lecturers (2)

Research Associates (2)

Special/desirable qualifications (if any);

Professors:

One in International Business Law including Taxation and other in Science, Technology & Environment or in Law & Development.

3. GERMANIC & ROMANCE STUDIES

Reader in German (1)

Lecturer in German (1)

(Leave vacancy upto 05/11/91 but likely to continue)

Special/desirable qualifications (if any);

Reader: German Literature.

4. PERSIAN

Research Associate (1)

5. MANAGEMENT STUDIES

Placement Associate (1)

Special/desirable qualifications (if any);

A person having industrial background or the knowledge of working of private and/or public undertakings or educational institutions with special reference to placement and training work will be given preference.

6. HINDI

Lecturers(2)

7. CENTRAL OFFICE

I. System Analyst-cum-Senior Programmer (Finance Wing) (1)

Special/desirable qualifications (if any);

a) Experience of participation in training programmes in Computer related disciplines.

b) Intensive experience in System Programming on a Third Generation Computer System.

II. Deputy Registrars (Panel to be drawn)

III. Assistant Registrars/Administrative Officers/Assistant Controller of Examinations (Panel to be drawn)

IV. Junior Programmer (Finance Wing) (1)

Special/desirable qualifications (if any);

a) Experience of participation in training programmes in Computer related disciplines; and

b) knowledge of an assembly language.

8. ENGINEERING DEPARTMENT

University Engineer (1)

Number of posts is given, within parenthesis, against each post.

SCALES OF PAY:

Professor/University Engineer: Rs.4500-150-5700-200-7300.

Reader/System Analyst-cum-Senior Programmer/Deputy Registrar/Placement Adviser: Rs.3700-125-4950-150-5700.

Lecturer/Junior Programmer/Assistant Registrar/Administrative Officer/Assistant Controller of Examinations: Rs.2200-75-2800-100-4000

Research Associate*

Rs.2200-100-2700

Rs.2700-100-3200

Rs.3200-100-3700

Rs.3700-125-4325

(*Depending upon the recommendations of the Selection Committee).

All above posts other than those o the Research Associate, carry DA CCA, HRA etc. as are admissibl under the rules in force in th University from time to time.

The details regarding prescribe qualifications and applicatio forms,for various posts, can be ha from Establishment Section-I (Room No.205), New Administra tive Block, University of Delh Delhi 110 007, during workin hours, either personally or by se ing a self-addressed and postag stamped (worth Rs.8/-) envelop (size 23cm x28cm).

J C K

REGISTRA

CONVOCATION

Youth — Our Hope of Tomorrow

he Prime Minister, Mr. ndra Shekhar, said that the h are the strength of India and e of tomorrow; upon their lders depended the future of country. He asked the youth to se ways and means with the vledge and expertise that they attained at this institution for easing the agricultural produc- . The Prime Minister was ering the Convocation Address e eighteenth convocation of the yana Agricultural University U) at Hisar. He said that it was unfortunate that in spite of our ts during the last 47 years, we not been able to remove hunger, rty and misery from this land. dvised the youth to contribute might in the nation building ity so that nation could achieve ncient glory in all fields. He ed the youth to be like a lamp lead the illiterate and poor to ath of knowledge and progress.

his address the Prime Minister e special reference to the status the Haryana Agricultural ersity had achieved at interna- l level and said that the nation proud of this institution and d forward with the hope that cientists would further ac- ate the pace of progress that had initiated since the very in- on of this university.

ough we had achieved consid- e progress in agriculture, the ase in production of oilseeds not been commensurate with ncrease of population. The Minister expressed his con- over the widening gap between gricultural production and that of population. Farm output increases had been far outpaced by the rise in population and called for immediate steps to check this alarming trend. The Prime Minister stressed on more effective strategy for increasing agricultural production; it was a matter of shame that in a country where 70 percent of the people were engaged in agriculture our dependence on other countries for certain food stuffs still persisted, he said. He called upon the agricultural scientists to generate suitable technology so that production of oilseeds, pulses was further increased to meet the ever increasing demand of the population. He made special reference to the plight of the poor, small and marginal farmers who hardly got the scientific and technological back up.

The Prime Minister sought the cooperation of all sections of the society, specially the youth and the intellectuals, whom he coded as privileged section of the society, in promoting the national unity, which has ever been our cherished tradition. He said that the nature had bestowed upon us every thing possible. We had a fertile land, very good climate and all natural resources required for the development and prosperity and progress of the nation. We were second to none in terms of manpower also. No other country in the world was as gifted as India in being bestowed with such a wide range of soils, minerals and climates. Inspite of all these our toiling masses, workers and farmers were not leading a better life. He called upon the farm scientists to intensify their efforts to tap the wide range of resources to boost the foodgrain production.

Mr. Chander Shekhar regretted that some vested interests were trying to divide the country on the basis of communalism, casteism, regionalism etc. He urged the youth to not to be misled by such elements and develop the spirit of reconciliation.

The Prime Minister deprecated that in the name of progress and prosperity, we were deviating from the cherished values on the basis of which India was held in high esteem by the international community. We were an ancient people and ours was an ancient land.

Today we are respected outside because of our tradition of tolerance and non-violence. Our sages, thinkers had ever stressed upon the time cherished values. He gave a call to preserve and nurture these values so that our young generation did not become oblivious of our ancient civilization and glorious tradition.

Though we had achieved considerable progress all around, even now many of our women and girls were illiterate and led a life of anonymity. It was very necessary on the part of scientists and intellectuals to ensure that effective steps were taken to remove drudgery from such rural homes and improve the quality of poor women so that they were able to lead a life of dignity and honour, said the Prime Minister.

Mr. Dhanik Lal Mandal, Governor of Haryana and the Chancellor of the Haryana Agricultural University, conferred the Degree of Doctor of Science (Honoris Causa) on the Prime Minister, Mr. Chander Shekhar in recognition of his abiding interest in Indian agriculture and his valuable contribution to rural development.

SCHOOL OF PLANNING AND ARCHITECTURE

(Deemed to be a University)

4, BLOCK-B, Indraprastha Estate, New Delhi-110002.

APPLICATIONS ARE INVITED FOR ADMISSION TO ACADEMIC PROGRAMMES (FULL-TIME) FOR THE SESSION 1991-92

BACHELOR'S PROGRAMMES IN

(I) ARCHITECTURE (5 years)-68 SEATS) AND (II) PHYSICAL PLANNING (4 Years)-20 SEATS

ADMISSION ELIGIBILITY: Pass in Senior School Certificate Examination (on completion of the 10+2 pattern, 12 years Course) of Central Board of Secondary Education, New Delhi or any other examination, recognised as equivalent with (a) General Science including Chemistry at the 10th Stage as a passed subject, (b) 60% of the aggregate marks, or more in English (core or optional), Physics, Mathematics andone more (optional)subject in which the candidate has secured maximum marks at the 10+2 Stage, provided the subjects have been passed separately, (c) 55% or more of the aggregate marks in (b) above for candidates belonging to i) Scheduled Castes, ii) Scheduled Tribes, iii) Children/Widows of Personnel of Armed/Para-Military Forces killed/disabled in action during hostilities and iv) Physically Handicapped.

SELECTION PROCEDURE: Selection for admission to the Bachelor's Programmes in Architecture/Physical Planning will be made through an Entrance Examination comprising: i) General Knowledge, Scholastic Performance and I.Q. Test ii) Aptitude Test for Architecture/Physical Planning to be held on 14th, 16th and 17th July, 1991 at the School of Planning and Architecture, New Delhi and at other Selected Centres in Delhi.

RESERVED SEATS: SC-15%, ST-7$\frac{1}{2}$%, Children/Widows of Personnel of Para Military Forces killed/disabled in action-5%, *Physically handicapped-5% and candidates belonging to Educationally Deficient States- 10%* of the total sanctioned intake.

(*Applicable to B.Arch. admissions only).

MASTER'S PROGRAMMES (3 Semesters) IN

i) **PLANNING** with specialisation in Urban Planning, Regional Planning, Environmental Planning, Housing and Transport Planning (open to Architects/Engineers); Candidates with Master's Degree in Geography/Economics/Sociology/Mathematical Statistics/Economics with Mathematics/Mathematics with Econometrics and Operational Research are eligible for some of these Programmes.

ii) **LANDSCAPE ARCHITECTURE** (Op B.Arch/B.L.A. and Town and Country Planners

iii) **ARCHITECTURE** with specialisation in Design/Architectural Conservation (open chitects).

iv) **BUILDING ENGINEERING AND MAN MENT** (Open to Engineers/ Architects).

ELIGIBILITY: Candidates with 55% of the ag marks or more at the qualifying examination respect of SC/ST candidates). Candidates w awaiting results of the qualifying examination a eligible to apply provided they complete the adm requirements by 26th, July 1991.

SCHOLARSHIPS: Rs. 1800/- per month, subject terms and conditions prescribed by the Govt. of for students admitted to Master's Programme valid GATE Score/qualified in the UGC (NE amination.

SPONSORED CANDIDATES: Upto 25% of the tioned intake in case of Master' Programme in Bu Engineering and Management and upto 50% in r of other Master's Programmes are open to cand who fulfil the admission requirements and are sored by Central Govt; State Govt; Statutory Org tions as well as Public institutions.

RESERVED SEATS: SC15%, ST-7$\frac{1}{2}$%

SELECTION PROCEDURE: Restricted numb candidates based on their academic background called for interview to be held on 1st, 2nd and 3r 1991 and selection for admission shall be made basis of the performance of the candidates at the view.

GENERAL INFORMATION: i) Medium of Ent Examination for Bachelor's Programm Hindi/English. However, medium of instructi Bachelor's and Master/s Programmes is Engl Foreign nationals are required to apply to the G India through their diplomatic channels; iii detailed information please refer to the Inform Brochure which will be supplied alongwith appli form.

IMPORTANT DATES

	MASTER'S PROGRAMMES	BACHEL PROGRA
1. (i) Issue of Application Forms Commences:		
(a) UCO Bank Branches at Delhi: IIPA Extension Counter (I.P.Estate), Defence Colony, Connaught Place, Karol Bagh, Som Vihar, Punjabi Bagh against payment of Rs. 100/- in cash (during Banking Hours only).	16.5.1991	23.5.1991
(b) By post from the School only against Payment of Rs. 100/- D.D. on SBI/UCO Bank in favour of School of Planning and Architecture, payable at New Delhi.	16.5.1991	23.5.1991
(ii) Last date of issue of Application forms:		
(a) By post from the School	07.6.1991	14.6.1991
(b) From UCO Bank Branches	10.6.1991	17.6.1991
2. Last date of receipt of Application Forms at the School and by Registered post.	17.6.1991	24.6.1991

D.R. BAIN
REGISTRA

PG Course in Rural Management

e Gujarat Vidyapith founded ahatma Gandhi in 1920 started -year Master's Course in Rural gement in July 1988 in its rural us at Sadra, District Ahmeda- The programme is intended to the increasing demand for le level managers to man the tary, semi-Governmental and omous Government organisa- working for upgrading rural y, particularly of taluka and ct levels in the spheres of co- tive milk dairies, cooperative banks, rural technology pro- mes including energy manage- with reference to bio-gas, ment of tribal population, etc. rogramme seeks techno-eco- input in its operationalisation ilitate techno-economic deci- by these trained graduates in rmance of their duties as mid- vel managers.

e entire course has been div- nto 8 modules. The field work amme is divided into 3 mod- During the first module, each nt is placed in one village for a d of six weeks. The purpose is nsitize the students with the es of rural society. They sub- project-report covering the ional and innovative practices riculture management, co- tive management, Panchayat gement and so on. In the d module of the field work, the nts have to formulate one ct on livelihood and employ- generation with a thorough ility analysis based on empiri- ta and a plan for implementa- During the third module of the work, the students are sent for raduation organisational ment where they study or- tional structure and internal mics which influences the tion of the organisation. This helps the students to enhance their management skills and knowledgebase obtained in a realistic situation.

For admission to this Programme, the candidates have to go through the process of admission test and personal interview.

Karnataka to Reorganise Vocational Education

Based on the recommendation of the Dr. Rame Gowda Committee on job-linked post-SSLC training programmes the vocational courses will be switched over from pre-university institutions to engineering colleges,polytechnics and ITIs. This was revealed by the Karnataka State Education Minister, Mr. Verappa Moily in Bangalore recently.The remodelling will rely heavily on industries participation in the training programme,he added.

Mr. Moily said that the 50 engineering colleges, 165 polytechnics and 168 Industrial Training Instituues (ITIs) were not being used to maximum capacity. The committee has recommended that the infrastructure available in these institutions could be used for vocational courses. The multi-pronged approach would emphasise skill development over theory. The committee proposes to offer about 800 courses, adding 300 to the existing 500 courses.

Dr. Rame Gowda, who headed the committee, explained that the committee had recommended an intensive industrial training programme, a short-term technical skill development programme and long-term technical service course.

The intensive industrial training programme would be a two-year post-SSLC course. During the second-year, the candidate would have to work in an industry for eight months as part of the regular workforce. This would be followed by an eight-week programme in elements of management, marketing, computer application and related matters.

The short-term technical skill development programme would be for students with lower academic achievements in SSLC. Candidates would be trained in the maintenance of domestic electrical appliances. The Central Government's Mass Employment Generation through Science and Technology (MEGSAT) Programme could be implemented, the committee suggested.

The long term technical service/maintenance course would train candidates to maintain personal computers and other electronic appliances. This course would be a post-pre-university course.

The intensive programme would need the co-operation of industrialists to allow for students to be trained. Dr. Gowda said that though legislation had been contemplated, it was felt that it would not be effective. Industrialists who had been sounded out had agreed to take on trainees if they were not

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We Congratulate.....

1. **Prof. V.R. Mehta who has been appointed Vice-Chancellor of the University of Jodhpur, Jodhpur.**
2. **Dr. C.S. Jha who has been appointed Vice-Chancellor of the Banaras Hindu University, Varanasi.**

required to pay them or hire them later

He said that this new system would be the first of its kind in the country. We assure that students who wish to study further after the training period would be given opportunity to do so.

IGNOU's Second Convocation

Dr. Shankar Dayal Sharma, Vice-President of India, stressed the importance of open university system working along with traditional universities to achieve a substantial increase in the skills level of total national work force. He was addressing the second convocation of Indira Gandhi National Open University (IGNOU).

The Vice-President emphasised that with a view to magnify the operation of the open university, it was necessary that certain interlinkages were established with the existing infrastructure connected with education. This inter-linking should be recognised by all the institutions concerned as not only beneficial or important but indispensable.

Dr Sharma underlined the idea of undertaking a major campaign for promoting literacy by mobilising large number of teachers and volunteers through open university system, using television and radio on basis of well-prepared capsule courses on teaching techniques.

Prof V.C.Kulandai Swamy, Vice-Chancellor of IGNOU said distance education now represents the most important development in the field of education since the beginning of industrial revolution.

A total of 990 students out of 3276, from various programmes received their degrees/diplomas at the Convocation.

Annual Exam Reintroduced

The Punjabi University, Patiala, has resolved to re-introduce annual system of examination for various courses from the next academic session (1991-92). These courses include : M.A., M.Sc. and M.Phil. in all subjects in addition to law and honours school courses. The M.B.A., M.B.A. (rural management), B.Tech., Engineering and Medical courses have been exempted from the scheme.

The syndicate of the University, at its recent meeting, also decided to (i) start a one-year diploma course in computing, and (ii) introduce entrance test for admission to BEd course.

Various proposals, viz., creation of a research fund to promote research activities, translation of classics into punjabi, celebration of Prof Sahib Singh centenary, holding of annual book fair etc., are also under consideration of the university.

In Search of Many Freedoms

A U.G.C. sponsored national seminar on "The Novelist and the Political Milieu: A Study of Indian English Fiction" was recently organised by the Department of English of the Jodhpur University. This was the second in the series planned to study aspects of Indian English Writings.

Delivering the presidential address, Dr. Mulk Raj Anand emphasized the relevance of the theme. "The novel is not history or politics. In vibrant works of fiction the artist has transcribed his innermost feelings with the dynamic of passion. Modern social and politi
ploitation and oppression,
ism and cruelty, rigid tradition
outmoded conventions call
impassioned a protest as impe
subjugation. Ours is a con
struggle for many freedom
said.

The participating scholars pr
the political dimension of fic
relation to ideology, aesth-
myth and the history of the fre
struggle. In all, twenty-eight p
were presented at the seminar

CSIR Aw Prese

The CSIR technology awar
institutions and individuals f
novative technology were prese
by Prof. M.M. Bhatnagar in
Delhi recently.

The CSIR shield for engine
technology was awarded to the
tional Aeronautical Labora
(NAL), Bangalore while the s
for process technology went t
Institute of Chemical Techno
Hyderabad. Prize for Chem
Technology was shared by Drs
Rawat, S.K. Gupta, J.M. Na
P.C. Gupta and Guru Prasad o
Indian Institute of Petroleum, I
radun.

Engineering Technology
was given to the group of scien
Drs K.N. Raju, R. Sundar.
Dash, K. Anandan and Mr
Venkatesh from the National A
nautical Laboratory, Bangalore

Prize for material technolog
been jointly awarded to the gro
scientists from National Ph
Laboratory (NPL) : Drs O. P.
L.M.Manocha, G.Bhatia,
Dhami and R.K. Aggarwal
developing high density ca
carbon composites especially
required in the Indian missile
gramme and to Drs H.V.K.
R. Thangappan, M/s Krishna

y, P. Subbiah, B. R. Yadav, Dr K. sokan, Dr K.Subramanian and Mr Arumugam for the development Titanium substrate insoluble odes that has helped the country saving energy to the tune of 320 illion KWH annually.

Shiromani Award for Prof. Mangla

rofessor P.B. Mangla, Head of the epartment of Library and Information Science & Dean Faculty of rts, University of Delhi has been awarded the prestigious 'Shiromani Award for Human Excellence' by the Shiromani Institute, New Delhi for his commendable contributions in the field of Library & Information Science both at the national and international levels. Prof. Mangla, Vice-President of the International Federation of Library Associations and Institutions (IFLA) has worked as Unesco Expert for several years in different countries. He is the first Indian to represent India and the Third World on IFLA which has membership from about 140 countries.

News from Agril. Universities

Tamilnadu Scientific Workers Conference

The State Level Scientific Wor- ers Conference was held at Tamil adu G.D.Naidu Agricultural niversity on 23rd and 24th of pril, 1991 at Coimbatore. The eads of Development Depart- ents, the Joint Directors of Agri- ulture, Heads of all University esearch Stations and Lead Scien- sts participated.

Inaugurating the Conference, mt. Latika D.Padalkar, Agricul- ural Production Commissioner and ecretary to Government of Tamil adu, emphasised the need to aintain high quality in breeders eed production in various crops. he called upon the farm scientists o make available adequate quantity f quality bio-control agents to meet he growing needs of the farming ommunity. Stressing the need for mparting need based training to armers, she impressed upon the articipants the need for revitalising he training centers for higher im- acts in the State.

Dr. S.Jayaraj, Vice-Chancellor, who presided, observed that the tate, in spite of several depleting atural resources, was making arks in many fronts in agriculture and related activities. Drawing inferences from the research study conducted at Centre for Agriculture and Rural Development Studies (CARDS), he concluded that the cultivated area of 9 out of 14 important crops was steadily declining but the production and productivity of 12 out of 14 crops were significantly increasing for the past two decades in the State. "On the productivity Yardstick, in Sugarcane and irrigated Sorghum we are number one in the country and in Rice, only second to Punjab", he added.

The Vice-Chancellor called for replacement of "Cropping System Approach" with "Farming System Approach". Taking a whole farm approach, farmers total income from farm business could be maximised by choosing an optional enterprise mix which can include horticulture, sericulture and livestock besides annual crops and by planning appropriate sequences in these activities. Improvement of crop yields through genetic manipulation, development of high stability systems of production for sustainable agriculture, waste land development, irrigation management and eco-system were some of the priority areas deliberated in the Scientific Workers Conference.

It had become imperative to increase productivity and also to sustain higher productivity through balanced fertilisation and hence there should be concerted efforts to make the best use of the available sources, inorganic and organic, so that not only these sources were utilised to the maximum advantage, but also increased the use efficiency of applied inorganic fertilisers.

Taking the clue from the concept of "Low Input Sustainable Agriculture" from Dr. M.S.Swaminathan, the Vice-Chancellor called upon the farming community to adopt Integrated Nutrient Management in Agriculture. He stressed the role of farm machineries and equipments in farm activities and wanted the University and State Development Departments to jointly organise the fabricated farm equipments effectively in the 100 acre Dryland Technology Demonstrations. The need for fabrication of special gadgets for hill areas was also stressed.

Six theme papers were presented and discussed at the Conference. These included (i) Integrated Nutrient Management in Tamil Nadu; (ii) Economic appraisal of Drip Irrigation; (iii) Alternate Sources of Energy for Agriculture and Agro-based Industries; (iv) Field Application of Biotechnology in Crop Production; (v) Crop Growth Simulation Studies in Rice Research; and (vi) Agricultural Growth in Tamil Nadu.

Research on Animal Health Stressed

Dr. R.P.S.Tyagi, member of the Agricultural Services Recruitment Board, New Delhi recently addressed the Annual Convocation of the College of Veterinary Science of the Punjab Agricultural University (PAU). In his address Dr. Tyagi said that the animal population of

India was an important resource and served the needs of the people in unique and important ways. He observed that the market value of the livestock was about 45,000 crores of rupees and so also the output value of the Indian livestock. The livestock was playing a very significant role in providing alternatives to the petroleum energy. Despite its importance in agriculture the support of research on the biology, health and diseases of most animal species had been neglected whereas the research in the plant sciences had received the lion's share of central funds.

Dr. Tyagi said that research on animal diseases not only had contributed importantly to animal and human welfare but also had been an important source of fundamental biological and medical knowledge. Research on veterinary problems frequently had unexpected relationship to human health and stimulated important advances in human medicine. Punjab was known for the fabulous livestock wealth and its germplasm had been spread far and wide in the country to improve the genetic stock of cattle. Most of the landless and the marginal farmers could be helped by their animals to fend for their life in the State, he added.

Dr. Tyagi urged the PAU to open polyclinics at the few district headquarters so that the proper attention could be paid to the referral cases which would provide invaluable material for students training programme. Since large animals were difficult to transport, polyclinics at the district headquarters could provide effective services to the peripheral areas of specialised nature. He also stressed that a centre of excellence in respect of overall veterinary services needed to be developed at the PAU.

Dr.Khem Singh Gill, Vice-Chancellor of the PAU, who presided, said that dairy farming could play an important role in the diversification of agriculture. He felt that in order to establish a viable dairy industry in the state, the dairy cattle needed to be provided with proper health care.

ICAR Summer Institutes

The Indian Council of Agricultural Research (ICAR) has decided to hold 19 Summer Institutes/Short Course in the field of Agriculture Sciences during coming Summer Vacation of 1991 for the benefit of teachers, research workers and extension workers, particularly the subject matter specialists. The main objective of this inservice training course would be to communicate the latest technological advances in the subject and provide the necessary orientation to teachers and research workers of Agriculture/Agricultural Engineering/Animal Science/Fisheries so that they are able to relate the teaching of their subject to the problems in their respective disciplines.

It would be possible to accommodate one or two from the sponsored list of teachers, researchers and extension specialists from any University/College/Institute/Department who are actively engaged in teaching/research or extension education in the respective subjects. The sponsored candidates should not be over 45 years of age on 1st July, 1991.

Applications duly forwarded by the Head of the Institution/College/Department may be sent direct to the Director of the Summer Institute, details of which are available with the University concerned or the Principal Scientist (S.I), Indian Council of Agricultural Research, Krishi Anusandhan Bhavan, Pusa, New Delhi 110012.

Electronic Media and Technology Transfer

Dr. Khem Singh Gill, Vice-Chancellor of the Punjab Agricultural
University while presiding
concluding function of a
Workshop on Multimedia A
ach for Transfer of Technolog
that the electronic media
television and radio, exhibi
video films, audio cassettes
farm publications could play a
nificant role in quickly dissem
ing new farm technology amon
farmers. Dr. Gill said that effe
programmes should be prese
on radio and television to ed
the farmers about the diversific
of agriculture without reducin
foodgrain production, judiciou
of various farm inputs and
protection measures.

Dr. G.S. Gill, Director of E
sion Education of PAU said th
mass media had played a signif
role in creating awareness a
the farmers about scientific agr
ture. He hoped that the Ag
tural Development Officers o
Department of Agriculture wh
attended this Workshop woul
able to pass on correct inform
to the farmers in the quickest
sible time.

Dr.Ranjit Singh, Additi
Director of Extension Educ
(Communication) said that the
pose of holding this Workshop
to acquaint the Agricultural D
lopment Officers about the im
tance of electronic and other m
in the development of agricul
The trainees were educated a
feature and news writing, pri
technology, radio and TV scrip
iting and preparing of visuals.

16 delegates from all over P
attended the Workshop which
jointly organized by the Comm
cation Centre of the PAU an
Indian Council of Agricultur
search.

Awareness Trainin Biocontrol Ag

The Tamil Nadu G.D.
ricultural University co
Awareness Training on pr

Biocontrol Agents on 7th of every nth at the Coimbatore campus. is one-day training is imparted to eate awareness on the easy, safe d environmentally friendly ethod of plant protection namely iocontrol'. Production of ade- ate and quality biocontrol agents cater to the needs of vast millions farming community is the need of the day. Creating awareness on this important component of Integrated Pest Management and imparting adequate knowledge and skill are the main objectives of this on-campus training programme. The interested farmers, general public and entrepreneurs are welcome to join this programme on the 7th of every month.

News from UGC

Countrywide Classroom Programme

Between 22nd May to 31st May, 991 the following schedule of elecast on higher education rough INSAT-1D under the supices of the University Grants ommission will be observed. The rogramme is presented in two sets f one hour duration each every day om 1.00 p.m. to 2.00 p.m. and 4.00 .m. to 5.00 p.m. The programme is vailable on the TV Network hroughout the country.

1st Transmission

1.00 p.m. to 2.00 p.m.

2.5.91

"Electric Circuits - VI"
"In Search of Rare Cranes"
"High Voltage Electron Microscopy"

3.5.91

"Rails"
"Oral Folk Tradition - VILPATTU"
"Towards Better Spoken English - IV Word Accent"

24.5.91

"A Lecture by prof. Phillip Morrison-II"
"Getting Along With Others"
"Conserving America - Champions of Wild Life - II"

25.5.91

"Hands Behind Textile Processing"
"Sailing in the Air - Gliding"
"Senses of Time"

26.5.91

No Telecast

27.5.91

"Properties of Fluids - I : Viscosity"
"Interpersonal Communication - II"
"Pest Story - II : Biological Control of Water Hyacinth"

28.5.91

No Telecast

29.5.91

"Cyclone Resistant Rural Houses"
"Jageshwar Shrines - I"
"DNA Choreography"

30.5.91

"Pen-Pals"
"A Discussion With A.K. Ramanujan"
"Towards Better Spoken English - V :" Intonation"

31.5.91

"Statistics?"
"The Pursuit"

2nd Transmission

4.00 p.m. to 5.00 p.m.

22.5.91

"Percutaneous Nephrolithotomy"
"American Literature - David Swen - A Fantasy"
"Genetics of Behaviour - II"

23.5.91

"Carbon Flies"
"Folklore and Folkloristics - I"
"On Poetry and Translation - I : Sources of Poetry"

24.5.91

"Fibonacci Numbers - 2"
"Psychiatric Disorders - 6 : Biological Therapy"
"Eye and Light Pollution"

25.5.91

"Understanding Cinema - XIV : Scene Analysis - I"
"Daughters of Eve - II"

26.7.91

No Telecast

27.5.91

"When sound Becomes Fury"
"Basic Principles of Accountancy - I"
"Humus Culture"

28.5.91

No Telecast

29.5.91

"Domestic Energy Management"
"Monsoon Circulation in India"
"Revealing the LAC Operon"

30.5.91

"Identifying Fibers"
"Folkore and Folkloristics - II"
"On Poetry and Translation - II : Indo-Anglian Poetry"

31.5.91

"Statistics?"
"The Pursuit"

UNIVERSITY OF DELHI

(FACULTY OF LAW)

LL.B. & LL.M. ADMISSION TESTS 1991-92

LLB. THREE YEAR COURSE

Last Date for receipt of applications Friday, May 31, 1991 Place and date of Test : Delhi, Sunday June 30,

LL.B. Classes are held at:

Campus Law Centre – Day (Main Campus) – 500 Seats

Law Centre-I – Evening (Mandir Marg) – 600 Seats

Law Centre-II – Evening (Dhaula Kuan) – 400 Seats

There will be One Paper of 2½ Hours duration containing 150 Multiple-Choice Objective type questions designed to test the Aptitude-cum-General Awareness of the candidates.

ELIGIBILITY

Admission Test is open to (a) candidates who have passed Master's/Bachelor's Degree Examination under the 10 + 2 + 3 Scheme of University or an Examination recognised by Delhi University as equivalent thereto securing at least 50% marks in the aggregate an completed 20 years of age on 1-10-1991 OR (b) who have passed Bachelor's Degree Examination under 10 + 2 + 2/11 + 3/any other s of examination leading to the award of degree after 14 years of study securing at least 55% marks and have completed 19 years of 1-10-1991. Relaxation in age upto one year may be granted by the Vice-Chancellor.

The Scheduled Caste/Tribe candidates must have secured at least the same percentage of marks at the Master's/Bachelor's D Examination as prescribed for passing the equivalent examination of Delhi University.

Relaxation: Upto 10% in minimum marks as indicated above to the blind and physically handicapped and 5% to children/widows of pers of armed forces killed/disabled in action. The physically handicapped candidates shall be examined before their results are declared for them appropriate weightage.

LL.M two year (30 SEATS) **AND THREE YEAR COURSE** (35 SEATS)

Last date for receipt of applications: Friday, May 31, 1991

Place and Date of Test: Delhi, Sunday, July 14, 1991

There will be one paper containing 150 Objective Type Multiple Choice questions in seven Areas (a) Law of Contract (b) Jurispru (c) Constitutional Law of India (d) Law of Torts (e) Indian Penal Code (f) Public International Law (Law of Peace only) (g) Family L Marriage and Divorce.

ELIGIBILITY

Admission is open to candidates who have passed LL.B. 3 yr. Course Examination of Delhi University or of any other University recog as equivalent thereto with not less than 55% marks in the aggregate and have completed 22 years of age on 1-10-1991.

RELAXATIONS: 10% of marks to SC/ST candidates and 5% to children/widows of personnel of Armed Forces killed/disabled in act

RESERVATIONS: 22.5% of LL.B./LL.M. seats are reserved for SC/ST candidates and 5% for children/widows of personnel of Armed F killed/disabled in action.

For LL.B., **5 seats are reserved for the Blind in each Law Centre.**

Admissions will be made strictly on merit based on marks obtained in the Admission Test. Any candidate appearing at any d examination, which entitles him to appear in LL.B./LL.M. admission test and whose results are awaited may take the Test but his cas not be considered for admission unless he secures the requisite percentage of marks.

HOW TO APPLY

1. Applications by eligible candidates may be submitted on plain paper giving information regarding (i) Name (ii) Father's/Husband's (iii) Date of birth (iv) Full postal address (v) Educational Qualifications (vi) Particulars of Bank Draft (vii) Claim for reservation/r tion in eligibility such as SC/ST etc. (viii) Order of Preference for three Law Centres for LL.B. Course/Preference for 2 Yr./3 Yr. C of LL.M. (ix) Pattern of education i.e. 10 + 2 + 2/10 + 2 + 3/ any other scheme (x) Signature of the candidate.
2. Test Fee for LL.B/LL.M Test is Rs. 120/- (Rs. 30/- for SC/ST candidates) Payable through CROSSED DEMAND DRAFT IN FAV OF THE DEAN, FACULTY OF LAW, UNIVERSITY OF DELHI payable at the STATE BANK OF INDIA, DELHI UNIVER BRANCH. Application Fee is not refundable.
3. **Applications must accompany** (i) Crossed Demand Draft (ii) Three recent passport size attested photographs with specimen signat the candidate on the top of the front side (iii) Attested copies of requisite certificates (iv) a self-addressed envelope bearing stamp 7/- of 25 cm x 11 cm size with the words "APPLICATION FOR LL.B./LL.M. ENTRANCE TEST" written on it.

Applications must reach the Dean, Faculty of Law, University of Delhi, Delhi-110007 latest by 31 May, 1991. Incomplete applica are liable to be rejected summarily.

Professor P.S. Sa
HEAD & DEA
FACULTY OF LA

Evolving a National System of Education

J. L. Azad*

D.P. Nayar. Towards a National System of Education.
New Delhi, Mittal Publications, 1989. Pp.435, Rs.210.00

Ever since 1937, when the British vernment in India grudgingly reed to grant limited autonomy to provinces under the 1935 Act, orts have been made to evolve a tional system of education, which ould be best suited to the genius of Indian people. It was really for- nate that during this period, the tion had the privilege of having cess to the advice and guidance of ahatma Gandhi, who strode the dian socio-political scene like a lossus. His scheme of education lled 'Nayee Taleem' (Basic ducation) was a revolutionary con- pt which was intended to set into otion a process of education, nich would eventually usher in a on-violent and non-exploitative so- al order. It is, however, tragic that e system of education evolved by andhiji and a host of other intel- ctual giants became a subject of rulent controversy and skepticism, hich hampered its proper im- lementation. Nayar, in his com- rehensive study under review, esides studying the changes in overnment policies on education, ttempts to put "Gandhiji's concept f education in its proper perspec- ve and clear it of the controversies ased on half truths, which still sur- ound". The period selected for he study extends from 1937, vhen popular governments vere installed in the provin- es to 1951, which heralded he onset of planning as a neans of socio-economic levelopment.

The book has been divided into two parts. The first part, consisting of two chapters gives an overview of the general socio-political and educational scenario during the period under review. The second part, spread over eleven chapters, is devoted to the exposition of the Gandhian model of education – the basic education system at the elementary, secondary and higher education stages. In this part, the growth of technical education and higher education has also been discussed in an historical perspective. The last chapter is devoted to a discussion of the main conclusions emerging from the study.

The backdrop (chapter one) is a critical appraisal of the tumultuous events that finally led to the extinction of the mighty British empire in India. A perusal of this chapter revives the memories of the strife and struggle, the bleak period of the Second World War, the protracted political negotiations, the perfidy of the British bureaucracy, the communal holocaust and finally the dawn of independence on a vivisected India. The study also recalls how the father of the Nation, Mahatma Gnadhi, felt that he was completely isolated. "Even the Sardar (Patel) and Jawaharlal Nehru think that my reading of the situation is wrong and peace is sure to return if partition is agreed upon," lamented the Mahatma. The agony and ecstasy of the great divide that preceded the freedom of India and the elimination of the 'frail old man of 77' have been vididly described.

In the second chapter titled 'The Educational Scenario', a very comprehensive review has been given of the phases of educational development and the problems emerging in the light of the observations made by various committees and commissions appointed during that period. The author had succinctly brought out the factors which made the educational scenario of utmost significance. These were: the non-formal educational dimension of a gigantic scale inherent in the political and constitutional struggle launched by Mahatma Gandhi; his prophetic vision of a non-violent global society, which culminated into the formulation of the scheme of basic education;the need for the training of scientific and technical manpower consequent upon the contemplated industrialisation of the country, which led to the appointment of the University Education Commission under the distinguished chairmanship of late Dr. S. Radhakrishnan etc. This chapter presents a critical assessment of the position of education at the time when India was entering into the threshold of independence after centuries of foreign subjugation.

In chapter three in the second part, the author has summed up the various facets of Gandhiji's philosophy of life. According to the author, the central content of his life was Truth, God, Love(or Non-violence). In this context, the author has discussed the socio-economic and political system envisaged by Gandhiji. According to the author, Gandhiji's philosophy may be summed up as follows :

1. "God is the ultimate reality. He is love, truth.
2. To be true to your Maker, you must love, His creation and serve it........."

The author has devoted two chapters to the exposition of Gandhiji's philosophy of education and the methodology of 'Nai Taleem'(Basic Education). According to the author , the central educational philosophy of Gandhiji was "the harmonious development of the individual in dynamic interaction with his environment in a spirit of dedicated service". This would mean that the methodology of education should be life centred, activity centred, problem oriented and production centred which would give the highest type of education to

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the poorest of the poor, enabling them thereby to hold their own against the tallest in the land". Education, therefore, must address itself to the head, heart and hand leading to the harmonious development of the body, mind and spirit.

In this context, the methodology of basic education was to be education through rural handicraft. This method called 'correlation' technique avails of the child's natural instinct for activity; education starts with actual life situations. Thus the child develops self confidence, being the principal agent in the solution of problems facing him.

Not that the scheme of Basic Education met with an enthusiastic response. The two aspects of basic education, which aroused fierce controversy were the insistence on the self supporting aspect of education and imparting of all education through a handicraft. To the critics of the self supporting aspect, Gandhiji's reply was, "surely, if the state takes charge of children between seven and fourteen and trains their bodies and minds through productive labour, the public school must be frauds and teachers idiots, if they cannot become self supporting". A harsh indictment indeed! But it shows the unwavering belief of Gandhiji in the productivity of education and its potentiality to become self supporting.

So far as the correlation technique is concerned, Gandhiji and his associates took pains to elaborate the concept in terms of actual teaching of various subjects. They showed no aversion to exploiting the possibilities of correlation technique with social and natural environment besides craft work.

In chapter six, the author has recounted, with consummate precision and an eye for details, the various experiments to spread adult education undertaken under the benevolent guidance of Mahatma Gandhi. These experiments gave birth to three significant principles of adult education; the foremost being the need for faith in the adult. The second principle was that the adult should be sufficiently motivated. This is to be achieved by catering to his felt needs. Thirdly, the programme should go on widening with the widening of the felt need of the adult. Undoubtedly, these principles are the sine-qua-non for the success of adult education programmes even in the present times.

The details of the curriculum, methods of teaching, textbooks, the process of evaluation and other significant aspects of pre-basic and post basic education have been given in three chapters (seven, eight and nine). The author has also described in details the Sewagram experiment, which concretised Gandhiji's thinking on basic education.

The university education, according to Gandhiji, should be "organically related to the Indian scene. It must , therefore, be an extension and continuation of Basic Education Course". This would necessitate setting up of Rural Universities – an idea which was adopted and elaborated by the University Education Commission (1948-49). It was also considered imperative that university system should be self supporting. Further, the medium of instruction should be the regional languages. It was also envisaged that the management of the universities would be in the hands of people directly concerned with rural life and with rural education of the modern type.

The author has devoted two more chapters to higher education. In one, (eleven) the development of technical education, in terms of the reports of the various committees appointed by the Government of India from 1857 (when the first three universities were set up) has been examined in an historical perspective. In another chapter (twelve) the report of the University Education Commission (1948-49) has been subjected to a critical review.

The author commends the various recommendations of the commission. According to him, " most comprehensive and dar model of restructuring of univers education in the context of a m rational visualisation of the place rural areas in India's national was presented in the last chapter the Commission's Report, enti Rural Universities." Althou Rural universities, as conceived the commission, have not been up, yet the suggestion formed conceptual framework for the tablishment of Rural Institutes a subsequently, the agricultur universities.

It is difficult to give, in the sh span of this review, even a bird's e view of the wealth of informati encompassed in this volume. It ma however, be stressed that the stu has admirably fulfilled its broad o jective of giving an authentic a unbiased exposition of th Gandhian philosophy of educatio It is well documented and scienti cally researched study. The auth has taken pains to explain th various contours of the Gandhia philosophy of education with co summate skill which, coupled wi the fluency of expression, makes an extremely readable report. T narration is interspersed wit glimpses of the personal experien ces, which the author was fortuna enough to have under the invigora ing guidance of the father of t Nation. It is, however, disheartei ing to note that the magnifice edifice built by Gandhiji and h band of selfless workers with s much love and care could n withstand the onslaught of tim This is more the triumph traditionalism over modernisatio than any deficiency in its concep tualisation or operational im praticability. It is hoped that th book will rekindle public interest i this revolutionary scheme and w help the Policy makers in clarifyin their ideas about basic educatio particularly at this time, when we a groping for a consensus on Nation Policy on Education.

AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The Library has also developed Bibliography of Doctoral Dissertation as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in bibliography. Such Universities as are not sending us regular information in respect of Doctoral Theses accepted and research scholars enrolled are welcome to make use of these columns.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from periodicals received in AIU Library during April 1991

EDUCATIONAL PHILOSOPHY

Ediger, Marlow. Philosophy in the educational arena. **New Frontiers in Edn** 20(4), 1990, 483-95.

EDUCATIONAL PSYCHOLOGY

Chaudhry, Pushpa and Gatembu, Margaret Wawira. Leadership style of principals and job satisfaction among teachers and principals. **J of Educational Planning and Administration** 3(3&4), 1989, 113-18.

Wilkinson, TW and Sherman, T M. Perceptions and actions of distance educators on academic procrastination. **American J Distance Edn** 4(3), 1990, 47-56.

EDUCATIONAL SOCIOLOGY

Goldring, Ellen B. Parents : Participants in an organizational frame work. **International J Edl Research** 15(2), 1991, 215-28.

Iyer, Ramaswamy R. Towards clarity on reservations question. **Economic and Political Weekly** 26(9 & 10), 1991, 495-500.

Johnson, Daphne. Parents, students and teachers : A three-way relationship. **International J Edl Research** 15(2), 1991, 171-81.

Joseph, Ammu. Education as if women mattered. **Economic and Political Weekly** 26(14), 1991, 876-78.

Marcroft, Minette. Politics of the classroom : Toward an oppositional pedagogy. **New Directions for Teaching and Learning** No 44, 1990, 61-71.

Pandey, Saroj. Organizational climate and teacher morale. **J of Educational Planning and Administration** 3(3 & 4), 1989, 137-42.

Redding, Sam. Alliance for achievement : An action plan for educators and parents. **International J Edl Research** 15(2), 1991, 147-62.

EDUCATIONAL PLANNING

Ghosh, Arun. Eighth plan : Challenges and opportunities - XI : Education - the basics of social transformation. **Economic and Political Weekly** 26(15), 1991, 941-46.

NATIONAL POLICY on education, 1986 : A review. **New Frontiers in Edn** 20(4), 1990, 496-504.

EDUCATIONAL ADMINISTRATION

Arreola, Raoul A. and Aleamoni, Lawrence M. Practical decisions in developing and operating a faculty evaluation system. **New Directions for Teaching and Learning** (43), 1990, 37-55.

Barrow, Michael M. Measuring local education authority performance : A frontier approach. **Economics of Edn Review** 10(1), 1991, 19-27.

Hooja, G B K. Making the system work, **J of Educational Planning and Administration** 3(3 & 4),1989, 157-69.

Kashner, James B. Changing the corporate culture. **New Directions for Hr Edn** (71), Fall 1990, 19-28.

Lulla, B P. Systematic location of problem areas in educational administration. **J of Educational Planning and Administration** 3(3 & 4), 1989, 19-27.

Mason, Robert C. Developing leaders in institutions of higher education. **New Directions for Adult and Continuing Edn** (44), 1989, 79-86.

Misra, C K. Manpower needs (teachers) for vocationalization. **Manpower J** 23(4), 1988, 61-8.

Narayana, K L and Kannaiah, P. Faculty accountability and work ethics. **J of Educational Planning and Administration** 3(3 & 4), 1989, 151-55.

SOME SUGGESTIONS on publication policy of universities. **Bulletin Madras Development Seminar Series** 21(3), 1991, 137-38.

CURRICULUM

Khullar, K K. Vocationalization-The plan and its implementation. **Manpower J** 23(4), 1988, 81-90.

TEACHERS AND TEACHING

Eble, Kenneth. Degradation of undergraduate education. **New Directions for Teaching and Learning** 44, 1990, 11-20.

Florini, Barbara M. Teaching styles and technology. **New Directions for Adult and Continuing Edn** (43), 1989, 41-53.

Katz, Joseph. Helping faculty to help their students learn. **New Directions for Teaching and Learning** 37, 1989, 81-8.

Pratt, Daniel D. Three stages of teacher competence : A developmental perspective. **New Directions for Adult and Continuing Edn** (43), 1989, 77-87.

EDUCATIONAL RESEARCH

Morcol, Goktug and Mclaughlin, Gerald W. Path analysis and residual plotting as methods of environmental scanning in higher education : An illustration with applications and enrollments. **Research in Hr Edn** 31(6), 1990, 555-72.

EDUCATIONAL TECHNOLOGY

Gunawardena, Charlotte N. Integrating telecommunication systems to reach distance learners. **American J Distance Edn** 4(3), 1990, 38-46.

EVALUATION

Bennett, Randy Elliot. Equivalence of free-response and multiple-choice items. **Journal of Educational Measurement** 28(1), 1991, 77-92.

Young, John W. Gender bias in predicting college performance : A new approach using item response theory. J **Measurement** 28(1), 1991, 37-47.

VOCATIONAL EDUCATION

Swadesh Mohan. Status of vocational education and eme needs for restructuring the system. **Manpower J** 23(4), 1988,

DISTANCE EDUCATION

Garrison, D R. An analysis and evaluation of audio tele ferencing to facilitate education at a distance. **American J Dist Edn** 4 (3), 1990, 13-24.

ADULT EDUCATION

Bhagia, N M. Training of administrators and educators in and continuing education. **J of Educational Planning and ministration** 3(3 & 4), 1989, 29-42.

Darkenwald, Gordon G. Enhancing the adult classroom env ment. **New Directions for Adult and Continuing Edn** (43), 67-75.

Fingeret, Arlene. The social and historical context of ticipatory literacy education. **New Directions for Adult and Cont ing Edn** (42), 1989, 5-15.

Jurmo, Paul. The case for participatory literacy education. **Directions for Adult and Continuing Edn** (42), 1989, 17-28.

Knox, Alan B. Designing comprehensive programs in adul continuing education. **New Directions for Adult and Contin Edn** (44), 1989, 47-54.

ECONOMICS OF EDUCATION

Gyimah-Brempong, Kwabena and Gyapong, Anthony O. C acteristics of education production functions : An applicatio canonical regression analysis. **Economics of Edn Review** 10(1), 7-17.

Visaria, Pravin and Minhas, B S. Evolving an employment p for the 1990s : What do the data tell us? **Economic and Poli Weekly** 26(15), 1991, 969-79.

COMPARATIVE EDUCATION AND COUNTRY STUDIE

Benjamin, Gail R. Choices of education in Japan. **Internati J Edl Research** 15(3/4), 1991, 251-64.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Mohgaonkar, Satish Damodar. **Applications of functional analysis and semi-group theory to some problems in magnetofluid mechanics.** Nagpur. Dr R V Saray, Department of Mathematics, Nagpur University, Nagpur

2. Sinha, Jitendra Kumar. **Some contributions to the theory of biconvergence spaces.** Magadh.

Physics

1. Bhagavantha Reddy, M. **Electrical transport and elastic properties of lithium titanium mixed ferrites.** Osmania.

2. Bisoyi, Dillip Kumar. **Small angle X-ray scattering st cellulose(Cotton) using correlation functions.** Sambalpur Mishra, Prof, Department of Physics, Regional Engineering Co Rourkela.

3. Chetty, G Raghupathi. **Studies in thin solid films : Pe mance of polycrystalline n-ZnO/p-CdTe solar cells.** Venkatesw Prof P Jayarama Reddy, Department of Physics, Sri Venkatesw University College, Tirupati.

4. Harish, C M. **Some studies on laser induced deposition laser annealing of semiconductors.** IISc.

5. Mohamed M H Abdel-Gawad. **EPR investigations of st ture and dynamics in certain solid state systems.** IISc.

6. Ravi Gopal, B. **Studies of doping effects in the binary liquid system acetonitrile + cyclohexane and the development of associated instrumentation.** IISc.

7. Shanbhag, Smita G. **Effect of a QSO on its host galaxy.** IISc.

8. Shashikala, M N. **Electrical and spectroscopic investigations of phase transitions in ferroelectric TAAP and DTAAP.** IISc.

Chemistry

1. Chandrasekhar, S. **Synthesis of some biologically active compounds.** Osmania.

2. Elangovan, T. **Studies on amphiphilic porphyrins and their metal derivatives.** IISc.

3. Kanakavalli, Velaga Lakshmi. **Novel transition metal oxide pillared clay catalysts for regio, enantio and substrate selective organic reactions.** Osmania.

4. Manohar, S. **A study of thermodynamic properties of electrolyte solutions : Potentiometric estimation of activity coefficients.** Osmania.

5. Meenakumari, K. **Polarography in inorganic chemistry.** Venkateswara. Prof (Mrs) K Saraswathi, Department of Chemistry, Sri Venkateswara University College, Tirupati.

6. Muni Reddy, M. **Titrations in non-aqueous media.** Venkateswara.Prof P R Naidu, Department of Chemistry, Sri Venkateswara University College, Tirupati.

7. Pardeep, T. **Investigations of molecular interactions by photoelectron and electron energy loss spectroscopies.** IISc.

8. Raghavan, S. **Synthetic investigations on morellin.** IISc.

9. Rajagopal, D. **Synthesis of some biologicallyactive compounds.** Osmania.

10. Ram Mohan Reddy, K. **Synthesis of biological activity of N-substituted acetoacetamide derivatives and related compounds.** Osmania.

11. Shyamala, B S. **Synthesis, characterization and some physiological studies of transition metal complexes derived from new multidentate oxygen-nitrogen donor systems.** Osmania.

12. Sivamurthy, Kunigiri. **Microbial degradation of phthalate esters.** Karnatak. Dr B G Pujar, Reader, Department of Chemistry, Karnatak University, Dharwad.

13. Sreenivasa Rao, T A. **Chelating agents as corrosion inhibitors towards metals and rocks.** Osmania.

14. Varghese, S. **Fluid-rock interactions in the higher grade terrain of South India : A mineralogic and thermodynamic study.** IISc.

Earth Sciences

1. Bhimsen, K. **Geological studies of the rocks of Ajra- Gadhinglaj area, Kolhapur District, Maharashtra State.** Karnatak. Dr N W Gokhale, Prof, Department of Studies in Geology, Karnatak University, Dharwad.

2. Gupta, Malisetty Jayaram. **Bioindicators in geoexploration : Some studies based on Varahamihira's Brighat Samhita.** Venkateswara. Prof E A V Prasad, Department of Geology, Sri Venkateswara University College, Tirupati.

3. Ramesh, D S. **Seismic imaging of the upper mantle under the Deccan volcanic.** Osmania.

Engineering and Technology

1. Balasubramaniam, R. **Some contributions to the structural dynamic and aero-elastic testing of flight structures.** IISc.

2. Datta, Apurba Krishna. **The role of column calibration factor in thermal diffusion column.** NBU.

3. George, Mathews K. **Normal mode acoustic propagation in isovelocity of an ocean with a rough surface.** IISc.

4. Gunasekhar, K R. **Design and development of triode ion plating systems - Discharge studies and performance evaluation.** IISc.

5. Gupta, Yash Paul. **Studies on pyrolysis of paddy straw.** PAU.

6. Kishore, N K. **Digital computation of magnitudes and waveshapes of voltages and currents on transmission system components due to lightning strokes.** IISc.

7. Mamgain, Sunil. **Path analysis of correlations between fruit yield and other related yield components in apple.** YS Parmar. Dr H S Verma, Chief Scientist, Horticultural Regional Research Station, Bajaura, Distt Kulu.

8. Manohar, Premila. **Digital simulation study of the application of artificial commutationin MTDC systems including weak AC networks.** IISc.

9. Ramasubba Reddy, M. **Digital models for analysis and synthesis of ECG.** IISc.

10. Rao, M V S. **Some aspects in the modelling of the transformers.** Sambalpur. Dr S Prusty, Prof, Department of Electrical Engineering, University College of Engineering, Burla.

11. Savita. **Studies on development of technology for flat type bread, evaluation of keeping quality, nutritional value and suitability of wheat varieties.** PAU.

12. Shiva Kumar, M S. **Design of buses and arbitration schemes for a multicomputer system.** IISc.

13. Vivekanandan, R. **Grain boundary layer ceramic capacitors from substituted $BaTiO^3$ processed from hydrothermal powders.** IISc.

BIOLOGICAL SCIENCES

Anthropology

1. Pal, Susil Chandra. **Incompatibility - selection in ABO and Rh blood groups.** Calcutta.

Environmental Sciences

1. Choudhury, Krutibas. **Pollution load and water quality of a river and a lake system of Western Orissa, India.** Sambalpur. Prof R C Das, Chairman, State Prevention and Control of Pollution Board, Orissa, Bhubaneswar and Dr P C Mishra, Postgraduate Department of Life Science, Sambalpur University, Burla.

2. Roy, Probir Kumar. **Studies on some organophosphorus compounds having pesticidal activities.** NBU.

3. Vantaram, Ravi Shankar. **Characterisation of atmospheric polynuclear aromatic hydrocarbons with special reference to automobile exhaust.** JNU. Dr D K Banerjee, Assoc Prof, School of Environmental Sciences, Jawaharlal Nehru University, New Delhi.

Biochemistry

1. Chakrabarti, Aparna. **Studies on the problems of pesticide residues in agricultural crops with particular reference to their**

effects on nutritional qualities and biochemical parameters. Calcutta

2. Ghosh, Gargi. **Isolation, purification and characterisation of action like protein from higher plants.** Calcutta.

3. Lalit Kumar Singh, P. **Lectin-induced lymphocyte activation : Role of ganglioside in the initial recognition event.** IISc.

4. Padmanabhan, Sri. **Biochemical and toxicological studies on some plants.** Nagpur. Dr N V Shastri, Department of Biochemistry, Nagpur University, Nagpur.

5. Raina, Anjana. **Purification of seed storage proteins of Amaranthus hypochondriacus and cloning of the gene.** JNU. Prof Asis Datta, School of Life Sciences, Jawaharlal Nehru University, New Delhi.

6. Raina, Ramesh. **Molecular genetics of vanadium dependent pathway of nitrogen fixation in Azotobacter vinelandii : Study of a structural gene and its regulation.** JNU. Prof H K Das, Special Centre for Biotechnology, Jawaharlal Nehru University, New Delhi.

7. Ramana Murti, J. **Differential gene expression/modulation by estradiol - 17 beta of the riboflavin carrier protein and cytochrome P450 in the chicken and rat.** IISc.

8. Rema, V. **Tyrosine-specific protein kinases of normal tissues - molecular cloning, sequencing and expression of a src related tyrosine kinase gene.** JNU. Dr Ghanshyam Swarup.

9. Sareen, Monika. **Biochemical studies with ethambutol susceptible and resistant mutants of mycobacteria.** Osmania.

10. Sulochana, K N. **Purification and characterization of isozymes of superoxide dismutase from groundnut, Arachis hypogea seedlings.** Venkateswara. Prof B Venkaiah, Department of Biochemistry, Sri Venkateswara University College, Tirupati.

11. Suryanarnyana, V V S. **The gene for the major antigenic protein of foot and mouth disease virus, type asia 163/72.** IISc.

Biophysics

1. Balaji, P V. **Specificity and mechanism of action of ribonuclease T1 - A computer modelling study.** IISc.

2. Uma, K. **Modular design of synthetic protein mimics : Construction of helices.** IISc.

Microbiology

1. Abhaykumar, V K. **Studies on marine bacteria of the tropical muddy coast of Bhavnagar.** Bhavnagar. Dr H C Dube, Prof and Head, Department of Life Sciences, Bhavnagar University, Bhavnagar.

2. Keskar, Jayant Bhalchandra. **Microbial degradation of aminophenols and aminophenol sulphonic acid present in wastewaters.** Nagpur. Dr N M Sarhad, Department of Microbiology, Nagpur University, Nagpur.

3. Mohan, K S. **Isolation and characterization of Oryctes baculovirus (Indian isolate, KI) and its use in the biological control of the insect pest, Oryctes rhinoceros L.** IISc.

4. Rathna, K. **A bacteriological study on Campylobacter jejuni strains isolated from infants suffering from acute diarrhoea in Hyderabad.** Osmania.

Botany

1. Das, Gitali. **Deficiencies of extensively aged seed embryos : The status of utilizable substrates.** Calcutta

2. Mallick, Anwar. **In vitro studies on regeneration of groundnut and grain legumes.** Delhi

3. Malviya, Shobha. **Impact of sewage and effluent disposal of River Narmada at Hoshangabad.** HS Gour. Dr J P Patnarya, Department of Botany, Government Narmada Mahavidyalaya, Hoshangabad.

4. Mary Regina, R L. **Mycological and pathological aspects of Foeniculum vulgare M and Cuminum cyminum L.** Osmania.

5. Mishra, Sushama. **Ecology of nitrogen cycling in grasslands.** H S Gour. Dr G P Mishra, Department of Botany, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

6. Nandeshwar, Sukhadeo Bhaskar. **The storage studies in parental genome of hybrid cotton.** Nagpur. Dr (Mrs) A A Saoji, Deopartment of Botany, Institute of Science, Nagpur.

7. Palod, Archna. **Genetic and physiological study of inorganic nitrogen metabolism in cyanobacteria Nostoc muscorum, Phormidium faveolarum and Blectonemea boryanum.** Durgawati. Dr S N Bagchi, Department of Bio-Science, Rani Durgawati Vishwavidyalaya, Jabalpur.

8. Prasad, Rakesh Ranjan. **Effect of gamma radiation on cytomorphological characteristics in Brassica rapa L.** Magadh.

9. Raja Papi Reddy, S. **Biomass and bioenergy (hydrogen) potentials of a purple nonsulfur bacterium Rhodoseudomonas palustris (Molisch) van Niel.** Osmania.

10. Sathish Kumar, C. **Taxonomic studies on the orchids of Kerala.** Calicut. Dr K S Manilal, Prof, Department of Botany, University of Calicut, Calicut.

11. Seth, Shyamal. **Study of pollen grains using fluorescence microscopy as a major technique.** Burdwan. Dr Pradyot Bhanja, Prof, Department of Botany, University of Burdwan, Burdwan.

12. Shantha, H M. **Cytogenetic and in vitro morphogenetic studies in some garden crotons.** Bangalore. Dr M C Gayatri, Reader, Department of Botany, Karnatak University, Dharwad.

13. Sharma, Pratap Bhanu. **Study on the effect of cultural and chemical control systems of Kharif weeds in Tawa Command Area.** H S Gour. Prof K M Vyas, Department of Botany, Dr H S Gour Vishwavidyalaya, Sagar and Dr (Smt) N Pathak, Prof and Head, Postgraduate Department of Botany, Government Narmada Mahavidyalaya, Hoshangabad.

14. Sikarwar, Ram Lakhan Singh. **Botany of Morena District, M P.** Jiwaji. Dr J P Kaushik, Reader, Department of Botany, Govt Post Graduate College, Gwalior.

15. Singh, Ajay Kumar. **Studies on the vesicular arbuscular mycorrhiza of paddy in Meghalaya.** NEHU. Prof R R Mishra, Department of Botany, North Eastern Hill University, Shillong.

16. Srikanth, R. **Ecological studies on algal blooms with reference to certain biochemical aspects.** Osmania.

17. Suguna, Pullela. **Physiological studies on the role of calcium and benzyl adenine in the deferral of in vitro senescence of cowpea Vigna unguiculata L leaf discs.** Venkateswara. Prof P M Swamy, Department of Botany, Sri Venkateswara University College, Tirupati.

18. Thomas, Philip Aloysius. **Fungi in keratitis : Detection, suseptibility patterns and pathogenic mechanisms.** Bharathidasan. Dr G Subramanian, Department of Botany, Bharathidasan University, Tiruchy.

Agriculture

1. Ganguly, Snehamoy. **Studies on factors limiting productivity of wetland rice.** Visva-Bharati. Dr D C Ghosh, Reader, Department of Agronomy, Visva Bharati, Santiniketan.

2. Kadam, Janardan Rajaram. **Evaluation of soil-water-plant and atmospheric parameters in relation to furrow, sprinkler and drip irrigation methods for tomato, Lycopersicon esculentum Mill.** M P Krishi. Dr S S Magar, Head, Inter Faculty Department of Irrigation Water Management, Mahatma Phule Krishi Vidyapeeth, Rahuri.

3. Mazibur Rehman. **Response of soybean to different Bradyrhizobial strains in the inceptisol of Varanasi.** BHU. Dr C L Sanoria.

4. Ninge Gowda, K N. **Evaluation of some promising exotic species and varieties of mulberry.** Bangalore. Dr G Boraiah, 19/5-1, I Main, I Cross, Jayamahal Extension, Bangalore and Dr H P Puttaraju, Department of Sericulture, Bangalore University, Bangalore

5. Pannu, Dalbara Singh. **Genetics of grain texture and other quality characters and their influence on yield and different food products in triticale.** PAU.

6. Ray, Sujit Kumar. **Storability and field performance of wheat as influenced by storage conditions and seed invigoration treatments.** Calcutta.

7. Saha, Subodh Chandra. **Evaluation of some soil test procedures for predicting sulphur availability to groundnut in inceptisols of Varanasi.** BHU. Prof Bharat Rai.

8. Suresh Kumar. **Efficiency of Udaipur rockphosphate as a source of phosphorus for wheat and soybean in an acid hill soil.** H P Krishi, Dr R S Minhas, Department of Soil Science, College of Agriculture, Palampur.

Zoology

1. Adolkar, Vijay Vishnu. **Biochemical analysis of disease management in sericulture establishment of the silkworm, Bombyx mori PMxNB 18 in Nagpur Region of Maharashtra.** Nagpur. Dr S K Raina, Department of Zoology, Nagpur University, Nagpur and Dr A M Khurd, Department of Zoology, Nagpur University, Nagpur.

2. Balasubrahanian, Sasikala. **Cytogenetic and cell cycle kinetic studies in patients with solid tumors.** BHU. Dr R Bamezai.

3. Bhattacharyya, Binoy Kumar. **Bioecological studies of Odontotermes redemanni Wasmann of the laterite zone of West Bengal.** Visva Bharati. Dr P Haldar, Department of Zoology, Visva Bharati, Santiniketan.

4. Ghosh, Nina. **Acute phase response to tissue injury of rabbit under metal stress.** Visva Bharati. Prof Shelley Bhattacharya, Department of Zoology, Visva Bharati, Santiniketan.

5. Ghosh, Probodh Kumar. **Interrelationship of acetylcholinesterase-acetylcholine, triiodothyronine-thyroxine and gonadotropin-gonadotropin releasing hormone in pesticide treated murrel, Channa punctatus Bloch.** Visva Bharati. Prof Shelley Bhattacharya, Department of Zoology, Visva Bharati, Santiniketan.

6. Gupta, Sadhna. **Studies on the regulation of macronuclear DNA content, corticomorphogenesis and the pseudoencystment process in the ciliate Pseudourostyla levis Takahashi.** Delhi.

7. Harwant Kaur. **Biochemical composition of digenetic trematode parasites of Rana tigrina Daud.** Punjabi. Dr S S Grewal, Reader, Department of Zoology, Punjabi University, Patiala.

8. Jadhav, Geeta Krishnarao. **Some aspects of physiology of the silkworm, Bombyx mori during pupal-adult development.** Karnatak. Dr V L Kallapur, Reader, Department of Zoology, Karnatak University, Dharwad.

9. Jasthi, Aruna Kumari. **Brown and white adipocyte morphology and cellularity in under nutrition.** Bangalore. Dr P S Shetty, Prof and Chairman, Department of Anatomy, St. John's Medical College, Bangalore.

10. Kiran Rekha. **Histological, histochemical and biochemical studies on minced muscle autografts on chick gastrocnemius.** HP.

11. Mandal, Debjani. **Effects of pyrethrum toxicity on the biochemistry of some macromolecules at the post embryonic development stages of Coreyra cephalonica St.** Burdwan. Dr Deb Kumar Chaudhuri, Prof, Department of Zoology, University of Burdwan, Burdwan.

12. Mandal, Subrata. **Circa annual histophysiology of the hypothalamo - hypophyseal axis in teleost, Catla catla Ham in relation to gonadal cycle.** Burdwan. Dr Deb Kumar Choudhuri, Prof, Department of Zoology, University of Burdwan, Burdwan.

13. Misra, Amales. **Taxonomic studies on the polychaetous annelids of Hooghly Estuary. West Bengal, India.** Calcutta.

14. Nageswara Rao, J. **Pattern of changes in the reproductive physiology of female albino rats subjected to physical exercises during puberal transition.** Venkateswara. Dr S Govindappa, Department of Zoology, Sri Venkateswara University College, Tirupati.

15. Noor Pasha. **Effect of insecticides on food and water utilization in the Eri silkworm, Philosamia ricini Hutt.** Bangalore. Dr M R Delvi, Department of Zoology, Bangalore University, Bangalore.

16. Pathak, Suresh Ram. **A neurohumoral study on brain function in stress and antistress drug action, with special reference to the effect of some plant products.** BHU. Prof R H Singh.

17. Rajamohan, F. **Physiological and molecular studies on formation of the biocidal factor(s) from the entomopathogenic bacterium : Bacillus sphaericus 1593 M.** Anna.

18. Sharma, Sunita. **Biological control of vector snails.** Punjabi. Dr J P Singh, Prof, Department of Zoology, Punjabi University, Patiala.

19. Sinha, Archana. **Zinc deficiency and zinc toxicity in female reproductive organs of albino (Sprague-Dawly) rats.** Rajasthan. Dr R S Bedwal, Department of Zoology, University of Rajasthan, Jaipur.

20. Sinhamahapatra, Manjula. **Physiology of the pineal gland in turtle.** Calcutta.

21. Sukumaran, P K. **Observations on the ecology of plankton in a freshwater tank in Bangalore.** Bangalore. Dr Katre Shakuntala, Prof, Department of Zoology, Bangalore University, Bangalore and Dr S P Reddy, Officer Incharge, Central Inland Fisheries Research Centre, Bangalore.

22. Tarafdar, Jamal Ahmed. **Studies on neurosecretion in the central nervous system of some palecypoda with particular reference to Lamelliden marginalis.** Calcutta.

23. Venkataraman, Arun B. **Studies on the mechanism of nestmate discrimination in a primitively eusocial wasp : Implica-**

tions for the evolution of eusociality. IISc

Medical Sciences

1. Kulkarni, Sheela Bhanudas. **Comparative evaluation of resin and abeitic acid derivatives as cosmetic materials.** Nagpur. Dr A K Doria, Department of Pharmacy, Nagpur University, Nagpur.

2. Mullick, Jayati. **Studies on the pulmonary glutathione S-transferases.** Delhi.

3. Sachan, Arun Kumar. **Study on Gulma : A radiological approach.** BHU. Prof L M Singh.

4. Sahu, Arvind. **Interaction of antileprosy drugs with the immune system.** Delhi.

5. Sarkar, Subrata. **Thumb sucking and its effect on dento facial structure.** Calcutta.

6. Singh, Ashok Kumar. **Standardization of rating scale for assessing proneness to coronary heart disease.** BHU. Dr S S Kaushik.

7. Tripathy, Paresh Chandra. **A study of dosa prakriti in relation to certain environmental factors.** Jagannath. Dr R H Singh, Prof and Head, Department of Kayachikitsa, Institute of Medical Sciences, Banaras Hindu University, Varanasi.

Animal Husbandry

1. Aggarwal, Rajeev Anand Kumar. **Studies on progression and regression of atherosclerosis as affected by milk.** NDRI.

2. Bansal, Anita. **Effect of formalin on different constituents of cow and buffalo milks with particular reference to fat globule membrane (FGM).** NDRI.

3. Bhikhabhai, Prajapati Jashbhai. **Solid state fermentation of wheat straw with mold inoculation and nutrients supplementation to enrich the feed.** NDRI.

4. Bhoot, Shashishekhar Ramchandra. **Nutrients availability and utilization in ruminants fed proteins treated with different protective agents.** NDRI.

5. Bhupinder Singh. **Studies on the degradation kinetics of locally available forages.** H P Krishi. Dr M P Narang, Department of Animal Production, Himachal Pradesh Krishi Vishwavidyalaya, Palampur.

6. Chauhan, Janak Pal Singh. **A study of differential level of knowledge and skills of veterinary livestock development assistants of Intensive Cattle Development Project, Karnal in relation to their job performance.** NDRI.

7. Chouhan, Ram Autar Singh. **Changes in the biochemical constituents of caprine fetal fluids at different stages of gestation.** J N Krishi.

8. Gautam, Udhan Singh. **Role of aspiration and motivation in decision making with respect to adoption of dairy practices by IRDP beneficiaries of Varanasi District, U P.** NDRI.

9. Dall, Jagir Singh. **Effect of tethering v/s non-tethering on the performance of buffaloes.** PAU.

10. Gothwal, Padam Prakash. **Role of milk components, additives and processing parameters on browning characteristics in milk.** NDRI.

11. Jadhav, Kishor Laxman. **Evaluation of various Holstein grades for economic efficiency and health costs.** NDRI.

12. Janbandhu, Taranath Jagoji. **Effect of heating and chilling on the compositional and structural properties of fat globule membrane from recombined milk.** NDRI.

13. Jhamman Singh. **Prolactin and hypophysial-gonadal in tions in buffaloes.** NDRI.

14. Mukundan, M. **Studies on the use of nisin producing sta cultures and its role in preventing spoilage and improving qua of cheddar cheese.** NDRI.

15. Muralidhara Rao, S P S Ch. **Studies on transformation a protoplast fusion in certian lactic streptococci.** NDRI.

16. Murdia, Chandresh Kumar. **Genetic analysis of Jersey ca herds in India.** NDRI.

17. Pagote, Champat Narayan. **Process optimization acidified milk beverage.** NDRI.

18. Pande, Deepa. **Isolation and characterization of resid proteases and lipases in UHT milk.** NDRI.

19. Ravindra Kumar. **Physico chemical changes in indigen whole milk powder bulk packed and stored under commer conditions.** NDRI.

20. Regunathan, A. **Transactional analysis in interperso communication at different levels of developmental manageme** NDRI.

21. Roy, Sushil Kumar. **Development of paneer like produ using non-conventional food solids.** NDRI.

22. Shah, Rajivkumar Kanaiyalal. **Studies on psychotroph sporeforming bacilli and their protease in milk and some India dairy products.** NDRI.

23. Shaikh Abdul Karim. **Relationship of dietary energy ar heat tolerance in sheep.** NDRI.

24. Shamlal, Satija Chaturbhuj. **Construction of selection in dices in Kankrej Cattle.** NDRI.

25. Sharma, Manoj. **Economical chicken production by en hancing the availability of nutrients from standard poultry ration under sub-mountaneous conditions of Himachal Pradesh.** H Krishi. Dr B S Katoch, Department of Animal Production, Himacha Pradesh Krishi Vishwavidyalaya, Palampur.

26. Sharma, Nalinaksh. **Cytogenetic investigations on fertil and sub-fertile male cattle and buffaloes.** NDRI.

27. Singh, Satyendra Kumar. **Stress induced changes in tes ticular steroidogenesis.** NDRI.

28. Sreenivasa Moorthy, P R. **Process modifications for the manufacture of low fat ice-cream.** NDRI.

29. Srivastava, Sunita. **Studies on the resuscitation o stressed indicator organisms in milk and milk products** NDRI.

30. Thakur, Sudarshan Singh. **Effect of feeding chemically preserved maize fodder on rumen fermentation and nutrien utilisation in growing calves.** NDRI.

31. Uplacksh, Vinay Kumar. **Studies on heat resistan proteinases in relation to keeping quality of high heat treated milks.** NDRI.

32. Venkateswara Prasad, Reghupatruni. **Microbiological studies on lactoperoxidase-hydrogen-peroxide-thiocyanate treated buffalo milk with special reference to keeping quality.** NDRI.

33. Zanjad, Prabhakar Narayanrao. **Shelf life test design of paneer like product using reaction kinetics.** NDRI

EDUCATION NEWS INDEX

A list of select articles and editorials on Education from newspapers received in the AIU Library during April 1991

EDUCATIONAL PSYCHOLOGY

eyakar Chellarej, D A. Importance of attitudes.**The Hindu** 91.

Matthews, Veena. Do exams pass the test? **The Times of India** 91.

EDUCATIONAL SOCIOLOGY

D'Souza, Lajwanti. A new education order. **The Times of India** 91

Dar, Anjali Zyuni. Pulse of the students. **The Hindustan Times** 91.

Deshpande, Anjali. New movement to educate Dalits. **The graph** 26.4.91.

JOBS AND equality (Editorial). **The Hindustan Times** 10.4.91.

Kulshreshtha, Indira. Removing sex bias in textbooks. **The du** 16.4.91.

Joshi, A M. System that causes concern. **The Times of India** 91

Kalita, Amarendra. Teachers, students and employees. **The m Tribune** 17.4.91.

Khandekar, Shubha. Why do they still prefer' Girls Only' schools? **e Press Journal** 21.4.91.

Pinge, Deepak. Coaching classes -- today's social need. **The es of India** 22.4.91.

Susheel Rao. What draws them to drink? **Deccan Chronicle** .91.

Viswanathan, V N. Using student power to advantage. **The du** 2.4.91.

EDUCATIONAL POLICY & PLANNING

Mahajan, V S. National education policy needed. **The Pioneer** .91.

EDUCATIONAL ADMINISTRATION

Amrik Singh. State of education : Universities versus colleges? **e Statesman** 25.4.91

——— UGC in need of drastic overhaul. **The Times of India** 91.

ANOTHER BLOW to students (Editorial). **The Tribune** 12.4.91

Krishna Kumar. Autonomy no remedy for bad education. **The nes of India** 20,4,91.

Menon, N C. Seats of learning-1. **The Hindustan Times** 29.4.91.

——— Seats of learning-11. **The Hindustan Times** 30.4.91.

CURRICULUM

Apparow, M R. Diversified curriculum. **The Hindu** 2.4.91.

LANGUAGE & LANGUAGE POLICY

Menon, P C. A retrograde step. **The Hindu** 9.4.91.

SCIENCE EDUCATION

Ahana Lakshmi. Undue emphasis on theory. **The Hindu** 2.4.91.

Pathak, K M. Whither secondary science education. **The Assam Tribune** 18.4.91

Raote, Dilip. Scientific distemper, or the great whitewash. **The Economic Times** 28.4.91.

VOCATIONAL EDUCATION

Dhar, Anindita. Vocational education for professional skills. **The Times of India** 22.4.91.

Neelamegam, R. To become a corporate secretary. **The Hindu** 30.4.91.

Pagdi, Gayatri. Only on paper? **The Times of India** 28.4.91.

Wise, Deborah. Euro-MBAs : A fast lane to success.**The Times of India** 22.4.91.

TEACHERS & TEACHING

Mani, Mallika. A neglected aspect. **The Hindu** 23.4.91.

EDUCATIONAL RESEARCH

Arunachalam, S. Indian research and development : An index of mediocrity. **The Economic Times** 6.4.91.

NATIONALISED RESEARCH (Editorial). **The Times of India** 12.4.91.

EDUCATIONAL TECHNOLOGY

Malhotra, Shyam. Failing the grade. **The Economic Times** 10.4.91.

EDUCATIONAL EVALUATION

Joshi, Navin Chandra. Examination that failed. **National Herald** 1.4.91.

Mathur, V S. Towards a better examination system. **The Hindu** 9.4.91.

ECONOMICS OF EDUCATION

Ahana Lakshmi, D K. Appalling waste of resources. **The Hindu** 30.4.91.

Das Gupta, S. Education needs more attention. **The Pioneer** 22.4.91.

NEGLECTED PROBLEM (Editorial). **The Economic Times** 12.4.91.

LIBRARIES & BOOKS

Amrik Singh. Knowledge : Imported and indigenous. **The Tribune** 22.4.91.

Chandran, Prabha. Coming to a full stop? **Indian Express** 28.4.91.

LITERARY IDENTITY for Bombay. **The Hindu** 7.4.91.

Mojumdar, Modhumita. Is it censorship of books? **The Statesman** 21.4.91

Moraes, Dom. Subject and a book. **The Hindu** 28.4.91

Ramaiah, L S. Why libraries are starved of books. **The Hindu**

30.4.91.

Ravichandra Rao, I K. Ushering in an era of library automation. **Deccan Herald** 7.4.91.

Sham Lal. Bugbear of literacy. **The Times of India** 7.4.91.

ADULT EDUCATION

A MILESTONE (Editorial). **Indian Express** 19.4.91

Balagopal, G. Dos Kerala show the way? **Indian Express** 23.4.91.

Dutta Gupta, Reeta. New lessons. **The Economic Times** 22.4.91.

KERALA SHOWS the way (Editorial). **The Hindustan Times** 19.4.91.

LITERACY LANDMARK (Editorial).**Deccan Herald** 20.4.91.

LITERACY OUT, illiteracy in (Editorial). **Free Press Journal** 19.4.91.

Menon, P K. Leading the way to knowledge. **The Telegraph** 7.4.91.

Nagaraja, Bhargavi. Post literacy drive-11. **Deccan Herald** 6.4.91.

Ninan, Sevanti. Literacy mission : Spokes in the wheel. **The Hindu** 28.4.91.

Paul, Seema. Kerala's miracle 100% literacy. **The Telegraph** 21.4.91.

READERS AND writers (Editorial). **The Times of India** 20.4.91.

(S)AKSHARA KERALAM (Editorial). **The Tribune** 21.4.91.

Sethi, J D. Fraud on the illiterate. **The Hindustan Times** 10.4.91.

Srinivasan, R. Literacy and lifestyles. **The Times of India** 21.4.91.

Surya, Vasantha. Light at the end of the tunnel. **The Hindu** 14.4.91.

TOTAL LITERACY (Editorial). **The Economic Times** 20.4.91.

Venugopal, C. Kerala attains total 'literacy'. **Deccan Herald** 28.4.91.

ELEMENTARY & SECONDARY EDUCATIO

Amrik Singh. Wages of connivance. **The Hindusta** 3.4.91.

Mehta,Niti Paul. School children deserve a better dea 30.4.91.

Mojumdar, Modhumita. School autonomy for what? **Th man** 28.4.91.

Ojha, A B. Malaise of mass-copying. **Patriot** 3.4.91.

Rajagopal, T. Drawbacks in autonomous schools. **Th** 15.4.91.

Rajappa, Lakshmi. Schools should promote independe ing. **The Hindu** 23.4.91.

Srinivasan, Aruna. What's all the fuss about? **The H Times** 6.4.91.

INSTITUTIONAL PROFILE

Aneja, Rajendra K. Anatomy of a business school : Jamn Institute of Management Studies, Bombay. **The Econom** 11.4.91.

Borgohain, Homen. Pursuit of excellence : Cotton Assam. **The Assam Tribune** 14.4.91.

PUNJABI UNIVERSITY Patiala : 22nd convocati **Tribune** 21.4.91.

Ray, Arabinda. Between the traditional and modern Institute of Management, Calcutta. **The Telegraph** 15.4.91.

Sethi, Sanjeev. Bonding literatures : Sahitya Akade Delhi. **Free Press Journal** 21.4.91.

WOMEN'S MEDICAL education pioneer : Lady Hardi Delhi. **The Statesman** 26.4.91.

ANNAMALAI UNIVERSITY

RAJAH MUTHIAH INSTITUTE OF HEALTH SCIENCES

ADMISSION TO B.P.T. COURSE 1991-92

(BACHELOR OF PHYSIOTHERAPY)

NOTIFICATION

Applications are invited for admission to the B.P.T. course for the academic year 1991-'92. The appl forms alongwith the prospectus can be had from the REGISTRAR, ANNAMALAI UNIVERSITY NAMALAINAGAR-608 002 on payment of Rs. 150/- in person or by post by sending a Demand Draft p on Indian Bank or Bank of Madura at ANNAMALAINAGAR or State Bank of India at CHIDAMBAR favour of the REGISTRAR, ANNAMALAI UNIVERSITY with a self addressed envelope of size 30 cm affixing postage stamps to the value of Rs. 1.80 alongwith a requisition. The application form together w prospectus will be issued from **10.5.1991.**

The last date for the receipt of filled in applications is **05- 06-1991.**

The University will not be responsible for any postal delay.

NO. K2/6/91
ANNAMALAINAGAR,
DATED: 30-4-1991

Dr. PR. Karpaganap
REGIST

ANNAMALAI UNIVERSITY

Directorate of Distance Education

Admission Notification for the year 1991-92 (Open University System)

Telephone: 04144–2610 (Chidambaram)
Telex: 4602 202 DDEC IN

Directorate offers the following courses of study under open ity System. Admission is open to persons all over India.

r Graduate Courses

)uration **Three years**

- 3.A. History (English & Tamil Media)
- B.A. Sociology (English & Tamil Media)
- B.A. Psychology (English Medium Only)
- B A Economics (English Medium Only)
- B.Com. (English and Tamil Media)
- B.Sc. Mathematics (English Medium only)

Eligibility : **No Formal Education Qualifications is required.** Candidates who shall have completed 20 years of age on 1.6.1991 are eligible for Provisional Admission to these courses. The provisional admission will be confirmed only on passing the **Entrance Test** after undergoing an Orientation (Preparatory) course.

l Graduate Course:

Duration : **Two Years**

- M A History (English & Tamil Media)
- M A Sociology (English Medium only)

ligibility : **No Formal Educational Qualification is required.** Candidates who shall have completed 25 years of age on 1.6.1991 are eligible. No entrance test will be conducted.

BURSEMENT OF NON-REFUNDABLE FEE FOR SC/ST ENTS:

per the G.O. MS. No. 2040 dt 20.10.1989 of Government of ıadu, the reimbursement of non-refundable fee for SC/ST ıts pursuing Correspondence Courses is permissible.

ION:

me Private Institutes /Individuals posing as our Agents are dly collecting fees, issuing application forms and promising sion to our courses. The Directorate has no such agents and no responsibility for their actions. Candidates are therefore d to correspond directly with the **DIRECTORATE ONLY.**

IE CANDIDATES ARE ADVISED TO APPLY DIRECT 'HE DIRECTORATE INDIVIDUALLY FOR APPLICA- FORM AS WELL AS FOR ADMISSION. APPLICATIONS ADMISSION RECEIVED THROUGH TUTORIALS OR OTHER AGENCY WILL BE SUMMARILY REJECTED.

ie cost of application from and prospects for each course is /- Applications will be sent to all by registered post.

pplication Form and Prospectus can be had from the Direc- e of Distance Education , Annamalai University, An- lainagar- 608002 by sending a requisition alongwith a crossed nd draft for Rs.25/- drawn in favour of the **Registrar, An- lai University,** on any bank at **Annamalainagar/Chidam- a,** mentioning clearly the name of the course for which the ation form is required and a self-addressed unstamped cover of size 25 cm x 12 cm. The requisition alongwith demand draft for Rs.25/- should be sent to the **Special Officer, Open University System,** Directorate of Distance Education, Annamalai University, Annamalainagar 608002. Cheques, Postal Orders, Money Orders and Outstation Demand Drafts are **not accepted.** Demand Draft should be purchased on or after **12.4.1991.**

Application for all courses will be issued upto **24.6.1991**

The last date for receipt of filled in application is **28th June 1991.**

Applications can be had from the following Study Centres also on payment of Rs.25/- by Demand Draft drawn in favour of the Registrar, Annamalai University as instructed above.

1. **MADRAS** : 19, Marshals Road, Egmore, Madras 600008 (Phone Nos. 861590/861909)
2. **TIRUCHI** : 32-B, 7th Cross, Thillai Nagar, Tiruchi 620018
3. **SALEM** : 15, Dr Subbarayan Street, Salem 636001
4. **NAGERCOIL** : 70, Ammasi Madam Street(Near TTC Bus Stand) Meenakshipuram, Nagercoil 629001
5. **VELLORE** : 4, Thiagarajapuram, Vellore 632001 (Near Lakshmi Theatre)
6. **MADURAI** : 176, North Veli Street, Madurai 625001
7. **COIMBATORE**: 72, Sarojini Street, Ram Nagar, Coimbatore 641009
8. **NEW DELHI** : 47 (SFS) Basant Enclave, New Delhi 110057 (Phone No. 6875567)
9. **ANNAMALAI NAGAR** : DDE Building Annmalai University Annamalainagar 608002

The Study Centres (1 to 8) will remain closed on all Tuesdays. Second Mondays and all other public holidays.

SPOT ADMISSION

The Candidates will be given Spot Admission through all our Study Centres for all courses from 3.5.1991.

Those who want to get applications by post should apply to the Directorate only and not to the Study Centre.

Filled in applications should be sent only to the Director, **Directorate of Distance Education, Annamalai University, Annamalainagar, Tamil Nadu 608002.** IN NO CASE FILLED IN APPLICATIONS SHOULD BE SENT TO THE STUDY CENTRES.

Application and Prospects can be had from the Directorate of Distance Education, Annamalai University, Annamalainagar and the Study Centres from 3.5.1991.

Admission cannot be claimed as a matter of right and the Directorate reserve to itself the right of admission.

NO. A1/2/91

PLACE: Annamalainagar

DATE : 5th April, 1991

DR. K AYYAKKANNU
DIRECTOR

INDIAN COUNCIL OF MEDICAL RESEARCH

Applications are invited upto **25th June, 1991** for the posts of Director under the Council's Institutes/Cen

1. AT THE INSTITUTE OF PATHOLOGY, NEW DELHI (One Post)

This Institute is primarily devoted for promotion of Pathology as a discipline in Biomedical activities in India. The responsibilities of the Institute are research in the filed of Pathology of major health problems of the country, Development of consultative mechanism for referal services, Audiovisual technology for medical education and training centre for medical and paramedical personnel. The Institute being in close proximity of major hospitals gets the benefits of extensive clinical material for its research activities. The Institute has acquired new modern equipment and other infrastructural facilities for discharging its function.

Qualifications & Experience: Essential: i) M.B.B.S with a doctorate in Pathology of a recognised university with 15 years experience in research/teaching in Pathology. ii) Original work as evidenced by the publication.

Desirable: Administrative experience in responsible positions.

Job requirements : The Director is expected to provide high level leadership in the identification, formulation and implementation of R&D Programmes and Projects of National importance in the field of Pathology. He will establish rapport with academic and professional institutions and Government and International agencies dealing with various related Research and Development aspects for ensuring multi-agency co-operation whenever necessary for fulfilment of the objectives of the Institute. He will interact with local and national health authorities in the formulation, implementation and assessment of the Institutes research activities. He will have the over-all responsibility for the working of the Institute within the framework of the ICMR system and for ensuring an atmosphere conducive for creative work.

2. AT THE CENTRAL JALMA INSTITUTE FOR LEPROSY, AGRA – (One Post)

This Centre is engaged in scientific research in different aspects of Leprosy such as chemotherapy, epidemiology, microbiology, immunology, biochemistry and pharmacology with the object of strengthening the National Leprosy Eradication Progamme. There are excellent facilities for undertaking research in these areas of modern biomedicine. The Institute is equipped with modern analytical instruments a large leprosy clinic, electron-microscope, animal house library, statistical facilities and other infrastructure facilities for coducting clinical and laboratory studies. It has a field area in Avadi, Tamil Nadu for conducting epidemiological studies in leprosy.

Qualifications and Experience: Essential : i) M.B.B.S with a doctorate in Medicine/Pathology/Microbiology or any related discipline with 15 years research/teaching experience. ii) Original work as evidenced by publications.

Desirable : Administrative experience in respo positions.

Job Requirements: The Director is expected to pr high level leadership in the identification, formu and implementation of R&D Programmes and Pr of national importance in the above areas. H establish rapport with academic and profession stitutions and Govt. and International agencies de with the various related research and Develop aspects for ensuring multi-agency cooperation w ever necessary for fulfilment of the objectives o Centre. He will interact with local and national h authorities in the formulation, implementation an sessment of National Leprosy Eradication Progran He will have the overall responsibility for the wo of the Centre within frame-work of the ICMR sy and for ensuring an atmosphere conducive for cre work

3. AT THE REGIONAL MEDICAL RESEA CENTRE, DIBRUGARH : (One Post)

This Centre is engaged in carrying out rese studies on regional health problems like Mal Japanese encephalitis, haemoglobinop nasopharyngeal cancer and allied disorders. Centre has well equipped laboratories and othe frastructural facilities for conducting clinical laboratory studies.

Qualifications & Experience : Essential : M with a doctorate in Medicine, Pathology/Microbio Public Health or any related disciplines with 15 rese-arch/teaching experience in the field of municable diseases and Nutrition. ii) Original wo evidenced by publications.

Desirable : Administrative experience in respo positions.

Job Requirements : It is a top research manage post. The Director would be overall Incharge Centre. He/She is expected to provide high leadership in the identification, formulation of R programmes and would also be required to form and sucessfully implement research programmes Centre and coordinate with other agencies for and research activities. The Director would in with local authorities to help and solve health pr in the region. He/She would also be responsib human resources development. He/She will hav overall responsibility for the work of the Centre the framework of the ICMR system and for ensur atmosphere conducive for the creative work.

Salary/conditions of service : The scale of pay at to the post is Rs.5900-200-6700 plus allowances Central Govt. Rules and NPA of Rs 950/- p medical graduates only. Higher initial pay can considered. Free medical aid and leave travel sion are also permissible for the employee and his as per Govt rules.

AGE : Below 50 years. SC/ST candidates allowed relaxation in accordance with Govt. of India Rules.

Educational qualifications relaxable in the case of candidates otherwise well qualified. Benefits of pension admissible. Private practice is not allowed. However, non- practising allowance is admissible to medical graduates only as per rules of the Council. Application forms can be obtained from the office of the Director General, Indian Council of Medical Research, Ansari Nagar, Post Box No. 4508, New Delhi-110029 to whom the complete application form should be sent accompanied with crossed postal order for Rs.8/- (No fee for SC/ST candidates) made out in the name of the Director Genral, ICMR, New Delhi. Applications without postal order will not be entertained.

Candidates called for interview will be paid 1st class rail fare by the shortest route. No TA/DA is admissible for joining the post or on termination of appointment. Application from the employees working uder the Central/State Govt/Semi.Govt and Govt controlled undertakings should be sent through the employers and be received before the closing date alongwith the certificate that the applicant will be relieved within three months of receipt of appointment orders. Advance copies will be considered subject to the proviso that the certificate will be produced at the time of personal discussion. Applications received after the closing date will not be considered. At the time of interview they should produce "No Objection Certificate" from their employer.

The name of the post and of the Institute/Centre must be indicated in the application. Incomplete application will not be entertained. Separate application should be submitted for each post.

BANASTHALI VIDYAPITH

(Institution Deemed to be University)

ADMISSION NOTICE

Applications for admission to following Courses are invited:

1. **M.Sc.(Bio-Science) — 2 Years Course**

   This is an interdisciplinary course with emphasis on Genetic Engineering & Biotechnology. In the second year the specialization can be either in Animal Science or Plant Science.

2. **M.Sc.(Mathematical Science) — 2 Years Course**

   This is specialization course with option to specialize in mathematics, Applied Mathematics, Operations Research or Theoretical Computer Science in second year.

ELIGIBILITY

1. M.Sc.(Bio-Science) – B.Sc. (10+2+3) with Zoology or Botany with atleast 50% marks in aggregate.

2. M.Sc. (Mathematical Science) – B.Sc.(10+2+3) with Mathematics and Statistics/Computer Science as may be relevant with at least 50% marks in aggregate.

NOTES

1. **Admission on all India basis for Women only.**

2. Admission in all the courses will be based on merit and result of an entrance test.

3. Last date for the receipt of completed application form June 30, 1991.

4. Application form alongwith prospectus are available by post on payment of Rs.40/- by crossed Postal Order (Rs.30/- in person) from Secretary, Banasthali Vidyapith (Rajasthan) 304022.

ANNAMALAI UNIVERSITY
DIRECTORATE OF DISTANCE EDUCATION
ADMISSION NOTIFICATION FOR THE YEAR 1991-92
(REGULAR STREAM)

Telephone : 04144-2610 (Chidamba
Telex: 4602 202 DDE

The Directorate offers the following courses of study. Admission is open to persons all over India.

I. PROFESSIONAL COURSES:

1. B.Ed. (English & Tamil Media)

Duration: One Year

Eligibility i) Bonafide teachers with degree qualifications in any subject working in schools or other educational institutions recognised by the Government.

or

ii) Post-graduates in Science subjects with first class (60% of marks and above) and Post Graduates in other subjects with second class (not less than 50% of marks).

or

iii) Graduates with first class (60% of marks and above) who have graduated not later than June, 1986.

2. M.Ed. (English & Tamil Media)

Duration:One year

Eligibility: B.Ed./M.H.Ed. or an equivalent degree.

II. UNDER GRADUATE COURSES:

Duration: Three years

3. B.A. History (English & Tamil Media)
4. B.A. Sociology (English & Tamil Media)
5. B.A. Psychology (English Medium)
6. B.A. Economics (English Medium)
7. B.A. English
8. B.Lit. (Tamil)
9. B.Com. (English & Tamil Media)

Eligibility: A pass in Pre-University/Higher Secondary Examination/Second Year Foundation Course or an equivalent examination

10. B.Sc. Mathematics (English Medium)

Eligibility : A pass in Pre-University/Higher Secondary Examination/Second Year Foundation Course or an equivalent examination with Mathematics as one of the subjects.

11. B.B.A. (Bachelor of Business Administration) (English Medium)

Eligibility: A pass in Pre-University/Higher Secondary Examination/Second Year Foundation Course or an equivalent examination.

III. POST GRADUATE COURSES:

Duration: Two years

12. M.A. Tamil

Eligibility: B.A./B.Sc. with Tamil under Part I OR III or B.Lit.

13. M.A. English

Eligibility: B.A./B.Sc. with English under Part II or III

14. M.A. History (English & Tamil Media)

Eligibility: B.A./B.Sc.

15. M.A. Economics (English Medium)

Eligibility: B.A. Economics or B.Sc. Statistics/B.Sc. Mathematics with 50% of marks in Part III of the B.Sc. Degree.

16.M.A. Psychology (English Medium)

Eligibility: B.A. or B.Sc. with 40% of marks in Part III

17. M.A. Sociology (English Medium)

Eligibility: B.A./B.Sc.

18. M.Sc. Mahtematics (English Medium)

Eligibility: B.Sc. Mathematics/B.Sc. Statistics

19. M.Sc. Physics (English Medium)

Eligibility: Candidates with B.Sc. (Physics) degree quali working as

i) Teachers in recognised schools

or

ii) Research Assistants in Research Institutions/Re Laboratories.

or

iii) Graduates with first class in B.Sc. Physics (60% of and above only).

20. M.Sc. Chemistry (English Medium)

Eligibility: Candidates with B.Sc. (Chemistry) degree qua tion working as

i) Teachers in recognised schools

or

ii) Research Assistants in Research Institutions/Re Laboratories.

or

iii) Graduates with first class in B.Sc. Chemistry (60% of and above only).

21. M.Sc. Zoology (English Medium)

Eligibility: Candidates with B.Sc. (Zoology) degree qualif working as

i) Teachers in recognised schools

or

ii) Research Assistants in Research Institutions/Re Laboratories.

or

iii) Graduates with first class in B.Sc. Zoology (60% of marks and above only).

22. M.Sc. Botany (English Medium)

Eligibility: Candidates with B.Sc. (Botany) degree qualif working as

i) Teachers in recognised schools

or

ii) Research Assistants in Research Institutions/Res Laboratories.

or

iii) Graduates with first class in B.Sc. Botany (60% of and above only).

23. M.Com (English & Tamil Media)

Eligibility: B.Com./B.B.A./B.A. Corporate Secretaryship Co- operation.

IV (a) LAW DEGREE COURSES:

24. B.A.L. (Bachelor of Academic Laws) (English Mediu

Duration: Three years

Eligibility: Any Degree.

25. B.G.L. (English Medium)

Duration:Two years

Eligibility: Any Degree.

(b) DIPLOMAS IN LAW: (English Medium)

Duration: One year

26. Diploma in Company Law with Banking Law and Pr
27. Diploma in Labour Laws with Administrative Law
28. Diploma in Law of Taxation
29. Diploma in Management Laws
30. Diploma in Criminology and Administration of Cr Justice
31. Diploma in Insurance Laws

Eligibility: Any Degree

V. MANAGEMENT COURSES: (English Medium)

Duration: One year

32. Diploma in Production Management

Eligibility. B.E./M.Com./M.B.A./M.A Economics/M.S matics/M.Sc. Statistics/Diploma Holders in Engineering.

33. Post-Graduate Diploma in Materials Management

34. Post-Graduate Diploma in Business Administration

35. Post-Graduate Diploma in Personnel Management

36. Post-Graduate Diploma in Marketing Management

37. Post-Graduate Diploma in Financial Management

38. Post-Graduate Diploma in Tourism Management

39. Post-Graduate Diploma in Advertising

40. Post-Graduate Diploma in Public Relations

Eligibility: Any Degree

FOUNDATION COURSES: (English & Tamil Media)

41. First Year: Elgibility: Pass in 10 year SSLC (New Pattern) Failed in 11 year SSLC/1 year of Plus 2 course/Matriculation (11 year)

42. Second Year: Eligibility: Pass in 11 year SSLC/11 year Matriculation/1 year of the Foundation course

Failed in Pre-University examination/ 11 year Intermediate examination

JOB ORIENTED COURSES:

Duration: One year

43. Diploma in Concrete Technology and Design of Concrete Structures (English Medium)

44. Diploma in Construction Management (English Medium)

Eligibility for (43 & 44) : Diploma in Civil Engineering/B.E. Civil Engineering/B.E. Civil and Structural Engineering

45. Diploma in Chemical Process, Instrumentation & Control (English Medium)

Eligibility: B.Sc. with Physics/Chemistry/Mathematics main and ancillary subjects OR Diploma holders in Chemical, Mechanical, Electrical or Electronics Engineering.

46. Diploma in Maintenance Management (English Medium) Eligibility: i) B.E. (Mechanical/Production/Electrical/Chemical).

ii) A.M.I.E. (Mechanical/Electrical/Chemical)

47. Post-Graduate Diploma in Banking (English Medium)

Eligibility: Bachelor's degree in Arts, Science, Commerce or Agriculture.

48. Post-Graduate Diploma in Co-operative Management (English Medium)

Eligibility: Bachelor's degree in Arts, Science, Commerce, Agriculture and Engineering or equivalent qualifications.

49. Diploma in Sugar Technology (English Medium)

50. Diploma in Fertilizer Technology (English Medium)

Eligibility for (49 & 50): B.Sc. Graduates with Mathematics, Physics and Chemistry as main and ancillary subjects/B.Sc. (Agri.)/Diploma holders in Chemical or Mechanical Engineering.

51. Diploma in Safety in Chemical Industries (English Meidum)

Eligibility: Any Graduate in Science/Arts subjects/B.Pharm. OR Any Diploma holder/Degree holder in Engg.

52. Certificate Course in Automobile Technology (English & Tamil Media)

53. Certificate Course in Offset Printing (English & Tamil Media)

54. Certificate Course in Binding and Finishing (English & Tamil Media)

Eligibility for (52, 53, & 54): A Pass in SSLC (X Standard) or equivalent examinations.

III. LIBRARY SCIENCE COURSES:

Duration:One year

55. B.L.I.S. (Bachelor of Library and Information Science) (English Medium)

Eligibility: Any Degree

56. M.L.I.S. (Master of Library and Information Science) (English Medium)

Eligibility: Bachelor of Library Science/Bachelor of Library and Information Science or equivalent qualifications.

57. Post-Graduate Diploma in Sociology (English Medium)

Eligibility: Any Degree including Medicine, Engineering, Law and Agriculture.

EIMBURSEMENT OF NON-REFUNDABLE FEE FOR SC/ST STUDENTS:

s per the G.O. MS. No. 2040 dt. 20.10.1989 of Government of Tamilnadu, the reimbursement of non-refundable fee for SC/ST students pursuing Correspondence Courses is permissible.

CAUTION:

SOME PRIVATE INSTITUTES/INDIVIDUALS POSING AS OUR AGENTS ARE ALLEGEDLY COLLECTING FEES, ISSUING APPLICATION FORMS AND PROMISING ADMISSION TO OUR COURSES. THE DIRECTORATE HAS NO SUCH AGENTS AND TAKES NO RESPONSIBILITY FOR THEIR ACTIONS.

CANDIDATES ARE THEREFORE ADVISED TO CORRESPOND DIRECTLY WITH THE **DIRECTORATE ONLY.**

THE CANDIDATES ARE ADVISED TO APPLY DIRECT TO THE DIRECTORATE INDIVIDUALLY FOR APPLICATION FORM AS WELL AS FOR ADMISSION. APPLICATIONS FOR ADMISSION RECEIVED THROUGH TUTORIALS OR ANY OTHER AGENCY WILL BE SUMMARILY REJECTED.

The cost of application form and prospectus for each course is Rs.25/- Applications will be sent to all by registered post.

APPLICATION FORM AND PROSPECTUS CAN BE HAD FROM THE DIRECTOR, DIRECTORATE OF DISTANCE EDUCATION. ANNAMALAI UNIVERSITY. ANNAMALAINAGAR - 608 002 by sending a requisition along with a crossed Demand Draft for Rs. 25/- Drawn in favour of the **Registrar, Annamalai University**, on any bank at **Annamalainagar/Chidambaram,** mentioning clearly the name of the course for which the application form is required and a self- addressed unstamped cover of size 25 cm. x 12 cm. Cheques, Postal Orders, Money Orders and Outstation Demand Drafts are **not accepted.** Demand Draft should be purchased on or after **12.4.1991.**

Applications for all courses will be issued upto **24-6-1991.**

The last date for receipt of filled in application is **28th June 1991.**

Applications can be had from the following Study Centres also on payment of Rs.25/- by Demand Draft drawn in favour of the **Registrar, Annamalai University** as instructed above.

1. **MADRAS :** 19, Marshals Road, Egmore, Madras-600 008 (Phone Nos: 861590/861909)
2. **TIRUCHI :** 32-B, 7TH Cross, Thillai Nagar, Tiruchi-620 018
3. **SALEM :** 15, Dr. Subbarayan Street, Salem - 636 001(Near Palace Theatre)
4. **NAGERCOIL :** 70, Ammasi Madam Street (Near T.T.C. Bus Stand) Meenakshipuram, Nagercoil-629 001
5. **VELLORE :** 4, Thiagarajapuram, Vellore - 632 001 (Near Lakshmi Theatre)
6. **MADURAI :** 176, North Veli Street, Madurai - 625 001
7. **Coimbatore :** 72, Sarojini Street, Ram Nagar, Coimbatore - 641 009
8. **NEW DELHI :** 47 (SFS) Basant Enclave, New Delhi-110 057 (Phone No. 6875567)
9. **ANNAMALAI NAGAR :** DDE Building, Annamalai University, Annamalainagar - 608 002

The Study Centres (1 to 8) will remain closed on all Tuesdays, Second Mondays and all other public holidays.

SOPT ADMISSION:

The Candidates will be given Spot Admission through all our Study Centres for all courses except B.Ed., M.Sc. (Physics, Chemistry, Zoology and Botany) from 3.5.1991.

Those who want to get applications by post should apply to the Directorate only and not to the Study Centres.

Filled in applications should be sent only to the **Director, Directorate of Distance Education, Annamalai University, Annamalainagar,** Tamil Nadu, **Pin Code: 608 002.** IN NO CASE FILLED IN APPLICATIONS SHOULD BE SENT TO THE STUDY CENTRES.

Application and Prospectus can be had from the Directorate of Distance Education. Annamalai University, Annamalainagar and the Study Centres from 3.5.1991.

Admission cannot be claimed as a matter of right and the Directorate reserves to itself the right of admission.

NO.A1/1/91
PLACE: Annamalainagar
DATE:5th April, 1991

DR. K. AYYAKKANNU
DIRECTOR

CLASSIFIED ADVERTISEMENTS

SOUTH GUJARAT UNIVERSITY

University Campus, Udhna-Magdalla Road
Post Box No.49, Surat 395 007

Applications are invited in the prescribed froms (in eight copies) for the following Teaching Posts in the Post-Graduate Departmen the University.

S.No.	Department	Posts
1	Bio-Sciences	** (i) One Professor (Marine. Biology/Algology, Fishery/Morphology/Ecorology)
		*** (ii) One Reader (Micro)
2	Business and Industrial	** (i) One Professor (Marketing with Management adequate experience or teaching in Business Policy)
		* (ii) One Reader
		** (ii) One Lecturer (Marketing Management)
3	Physics	(i) One Professor (Solid State Physics (Expt)/Material Science (Expt).
		/* (i) One Lecturer (Solid State Physics preferred)
4	Computer Science	* (i) One Professor (Management/Information System (MIS)/System Development/ Technology) Information
–		*** (ii) One Reader
		(iii) One Reader (System analysis and design/Artificial Intelligence/Data Structure and Management Computer Graphics)
		** (iv) One Lecturer (Descrete Mathematics/Managerial Economics/ Behavioural Science Optimization Theory/Computer Architecture/ Organisational Structure).
5	Chemistry	** (i) One Professor (In-organic/Organic/Physical Chemistry)
		(ii) One Professor (In-organic/Organic/Physical Chemistry)
		** (iii) One Lecturer (Analytical/In-organic Chemistry)
6	Public Administration	** (i) One Lecturer
7	Rural Studies	*** (i) One Lecturer (Public/Rural Administration)
		(ii) One Lecturer (Bio-science/Botany/Zoology to teach Fishery Forestry Course in Rural Studies)
8	English	* (i) One Lecturer
		** (ii) One Reader
9	Aquatic Biology	(i) One Reader
		** (ii) One Lecturer
10	Centre for Tribal Studies	(i) Two Lecturer
11	Journalism	(i) One Lecturer
12	Mathematics	** (i) One Reader
13	Department of Continuing Education and Extension Work	** (i) One Assistant Director
		(ii) One Assistant Director

The Posts of Assistant Director are temporary and in force upto 31st March, 1995 only.

NOTE: *These posts are reserved for Scheduled Caste

**These posts are reserved for Scheduled Tribe

***These postsare reserved for Socially and Economically Backward Class of Gujarat State (Baxi Panch Classification of Gujarat State)

For reserved posts only candidates belonging to the respective class need apply.

Pay Scale for the above posts are as under:-

(1) PROFESSOR: Rs.4500-150-5700-200-7300
(2) READER/ASSISTANT DIRECTOR:: Rs.3700-125-4950-150-5700
(3) LECTURER: Rs.2200-75-2800-100-4000.

In addition to pay the permanent teachers of the University Departments are entitled to draw Dearness Allowance, House Rent A and are eligible for other benefits like pension-cum- Gratuity, Leave Travel Concession and Medical benefits.

Candidates belonging to Scheduled Castes/Scheduled Tribes and Socially and Economically Backward Classes (Baxi Panch of G State) should clearly indicate in their application the caste of which they belong and attach necessary certificate from competent au

The candidates who have applied previously for the post of Reader in Computer Science in response to our Advertisement dated 28-8-1990 need not apply again. The may however send additional information if any, alongwith their present address.

Information about qualifications and specialisation required for each post is to be made will be supplied with prescribed application forms which can be had from the undersigned on payment of Rs.15/- in cash or by Postal Order alongwith self addressed envelope of 22cm x 13cm size with Postal Stamp worth Rs.5/- affixed thereon. Canvassing in any form will disqualify the candidate.

The last date for receipt of application is **31-5-1991.**

N. K. Desai
OFFG. REGISTRAR

TAMIL UNIVERSITY, THANJAVUR

ADVERTISEMENT

Applications in the prescribed from in quadruplicate are invited from the candidates for the following posts which are likely to be confirmed. Last date for the receipt of applications in the prescribed form will be **31.5.1991**

Sl. No.	Post	No. of Post
1.	Professor (History)	1
2.	Lecturer (Literature)	1

Scale of Pay:	
Professor	4500-150-5700-200-7300
Lecturer	2200-75-2800-100-4000

QUALIFICATIONS

PROFESSOR : GENERAL : An eminent scholar with published wotk of high quality, actively engaged in Research, 10 years experience of teaching and/or research, experience of guiding research at Doctoral level; or An outstanding scholar with established reputation who has made a significant contribution to knowledge.

AGE : Should have completed 35 years but not 50 years. Relaxable if otherwise well qualified.

LECTURER : General : a) A Dcotoral degree or research work or an equally high standard and

b) Good academic record with atleast second class Master Degree with 55% marks.

AGE : Should have completed 25 years but not 35 years

SPECIALISATION : Post: Professor: History

Post: Lecturer : Literature

The required application forms may be obtained from Registrar, Tamil University, Thanjavur-5 by sending a written requisition with clear postal address accompanied by Bank Draft to the value of Rs.25/-(Rs.15/- for SC/ST candidates) drawn in fvour of FINANCE OFFICER, Tamil University, Thanjavur-5 payable at Thanjavur.

All requisitions however should be addressed to the REGISTRAR, Tamil University, Thanjavur-5 accompoanied by a Self Addressed cover bearing postage stamps to the value of Rs.3/-. The cost of the application blanks will not be refunded under any circumstance.

The University reserves the right to reject any application without assigning any reason if otherwise found suitable.

R. Muthian
REGISTRAR

THE UNIVERSITY OF BURDWAN

RAJBATI : BURDWAN,
WEST BENGAL

ADVERTISEMENT NO. 17/90-91

Dated April 29, 1991

Applications in the prescribed form are invited for one post of Readership in Economics with Specialisation in Statistics & Econometrics in the approved UGC's Scales of pay.

MINIMUM QUALIFICATIONS FOR THE POST

As prescribed by the U.G.C.

Prescribed application forms along with UGC's prescribed qualifications may be obtained from Rajbati, University of Burdwan, personally on payment of Rs.10/- in Cash at the University Sales Counter from 11a.m. to 12 noon on Saturdays and 11 a.m. to 1.30pm on other working days or by sending a self addressed stamped (Rs.2/- envelope (11" x 9") accompanied by Crossed Indian Postal Order of Rs.10/- in favour of the Finance Officer, University of Burdwan.

Last date for submission of application with requisite application fee of Rs.5/- is May **31st, 1991.**

M K Chatterjee
REGISTRAR

CENTRAL DRUG RESEARCH INSTITUTE

(Council of Scientific and Industrial Research)

SPECIAL RECRUITMENT DRIVE FOR SCs/STs

ADVERTISEMENT NO.4/91

Applications on the prescribed form are invited from Indian Citizens belonging to the Scheduled Caste/Scheduled Tribe categories for the following posts:-

1. **SCIENTIST 'B': 3 POSTS (2 FOR ST, 1 FOR SC) (Rs.2200-75-2800- EB-100-4000)**

Post No.(i): (Parasitology) (Reserved for ST)

EQ First Class M.Sc. Zoology (Specialisation in helminthology/ M.V.Sc. (Parasitology) or MBBS/Ph.D./M.D. DQ: Two Years research experience in immunochemistry/Immunology of helminthic infections. JR: To Isolate, characterize and evaluate antigens of helminth parasites.

Post No.(ii) : (Med.Chem.) (Reserved for ST)

EQ: First Class M.Sc./Ph.D. in Organic Chemistry. DQ: Two Years research experience in medicinal chemistry. JR: To synthesise Organic Compounds of biological interest.

Post No.(iii): (Botany) (Reserved for SC)

EQ: first Class M.Sc./Ph.D. in Botany. DQ: Two Years experience in collection and identification of Indian Plant Particularly angiosperms and knowledge of International Code of Botanical Nomenclature and herbarium methodology. JR: Collection of Plants/ materials for Pharmaco-chemical investigations from various parts of India including marine samples and maintenance of herbarium.

2. **SENIOR TECHNICAL ASSISTANT: 1 Post (Reserved for ST) (Rs.1640-60-2600-EB-75-2900).**

EQ: Degree in Commercial Arts/ 5 years Diploma Course in colour and black and white photography/ 3 years course in Medical Science Photography from a recognised Institute or University with 3-5 years experience after graduation. JR: The candidate will be required to undertake the work of photomicrography, microphotography outdoor and indoor colour and black and white photography and may have to draw scientific diagrams and charts.

3. **JUNIOR TECHNICAL ASSISTANT: 2 Posts (Reserved for ST) (Rs.1400-40-1800-EB-50-2300).**

Post No.(i): (Biochemistry) (Reserved for ST)

EQ: B.Sc. with Physics and Chemistry as main subjects. DO: Experience in handling Scientific Instruments/material like spectrophotometers, fluorimeters and radio isotopes. JR: to maintain and use instruments involved in estimation and separation of biochemical entities.

Post No.(ii): (P.D. Division) (Reserved for ST)

EQ: B.Sc. with Chemistry as one of the subject. DQ: Experience in Research Development of Processes for synthetic drug intermediates or chemical processes industry JR: The incumbent will assist in scaling up studies concerned with the programme in the field of drug and drug intermediates. Has to work in shifts for operation of chemical plants. Has to carry out literature survey and help in preparation of technical reports.

GENERAL CONDITIONS:

1 The above posts carry usual allowances as admissible under the rules of Govt. of India. Total emoluments at the minimum and the maximum of the scale including HRA at present is as follows:-

Scale of Pay	Minimum	Maximum
Rs.2200-4000	Rs.3671.00	Rs.6380.00
Rs.1640-2900	Rs.2805.00	Rs.4672.00
Rs.1400-2300	Rs.2287.00	Rs.3814.00

2 Research experience should preferably be supported by publications in referred journals.

3. Candidates belonging to SC/ST communities will have to furnish certificates from prescribed authority in the required format printed at page 345 of the Brochure on reservation of SC & ST (form attached)

4. Since it is not possible to call all the eligible candidates for the interview, the applications will be shortlisted for the purpose and the decision of the Director will be final.

5. Applicants called for attending the interview will be paid single second class railfare to and from the actual place of travel or residence as mentioned in the application whichever is nearer to Lucknow Railway Station.

6. Separate application for each post indicating the advertisement number and post applied for should be sent.

7. The candidates in Government/Semi-Government Organisations/Public Undertakings and Autonomous Bodies should route their applications through proper channel.

8. The number of vacancies to be filled may vary at the time of actual selection.

9. Persons selected for the posts of Scientist 'B' will be on a contract for a period of six years in the first instance except for CSIR employees already confirmed against lower posts. The remaining posts are pensionable subject to the CSIR rules and regulations in force.

10. The Institute has a system of periodical assessment promotion on merit.

11. Other things being equal consideration would be given to candidates with proven excellence in sports.

12. The prescribed application form may be obtained from the office of the Controller of Administration, Central Drug Research Institute, Chatter Manzil Palace, P.B. No.173, Lucknow 226 001 (UP), by sending a requisition duly indicating the post and advertisement number alongwith a self-addressed **envelope of size 23x10 cm.** Any request for application form received after **31st May, 1991** will not be entertained for supply by post. Application duly completed (supported by the attested copies of certificates and testimonials) should reach Director, Central Drug Research Institute, Lucknow on or before **30th June, 1991.** Application received after this date will not be considered.

13. Canvassing in any form and/or bringing in any influence political or otherwise, will be treated as a disqualification for the post.

PUNJABI UNIVERSITY PATIALA

ADVT. NO. 20/PRO/RECT.

APPLICATIONS are invited for two Research Associateships, one each for the Department of Hindi and Sociology & Social Anthropology, so as to reach the Deputy Registrar (Establishment) by **May 25, 1991.** Persons having M.A. and Doctorate degree in the relevant subject and published work to their credit and have already shown evidence of independent research work and have also working knowledge of Punjabi upto Matric standard, preferably below the age years, are eligible. In the case of women age limit is 55 years. Associateships emoluments in the slabs of (i) Rs. 2200- 2700, (ii) Rs. 2700-100-3200, (iii) Rs. 100-3700, and (iv) Rs.3700-125-4325 and for a period of three years extendable another two years. Selected candidates be placed in any of these slabs depend upon their suitability, on the recommen tions of the Selection Committee.

APPLICATION FORMS can be tained from the Head, University Pub tion Bureau, on payment of Rs.15/- at counter or by sending IPO for Rs. 15/- favour of the Registrar, alongwith a self dressed envelope (25cm. x 10 cms.) aff with postage stamps worth Rs. 10/- and dicating on it the name of the post app for.

REGISTRA

THE UNIVERSITY OF JODHPUR, Jodhpur

(Establishment Section)

ADVERTISEMENT NO. 20/91-92

Requires

Registrar (one) Permanent Post

Pay scale Rs. 3700-125-4700-150-5000 allowances admissible under rules.

Candidates should have First or H Second Class Master Degree of recogni University and Atleast 10 years' administ tive experience in a position equivalent Deputy Registrar involving supervision, co trol and planning

OR

UNIVERSITY OF DELHI

DEPARTMENT OF COMPUTER SCIENCE

ADMISSION NOTIFICATION FOR

MASTER OF TECHNOLOGY (COMPUTER SCIENCE) - 1991

Applications are invited on All India basis for admission to the $1\frac{1}{2}$ year degree cou **"M.Tech. (Computer Science)"** under Cross-Migration Programme of Department Electronics, Govt. of India, for the session starting from **July 15, 1991** in the Departm from the "Sponsored teachers holding permanent positions in Universities, affiliated colle and institutions deemed to be Universities having atleast Master's Degree in Mathema science/Physics or B.Tech./B.E. in any branch of Engineering".

Application for the Entrance Test, fixed for **Saturday, June 15, 1991** and to be cond only at Delhi University, Delhi, is required to be made on a prescribed form obtainable, eith personally or through mail, **against payment of Rs.10/- (non- refundable) by means of crossed Bank Draft payable at State Bank of India, University of Delhi, Delhi only drawn in favour of "The Registrar, University of Delhi".** In case of a request for a through mail the candidate is also required to send a self-addressed and stamped (Rs. ordinary post) 25cm x 17.5cm envelope along with a Bank Draft of Rs.10/- to Shri K S **Department of Computer Science, Arts Faculty Extn. Building, University of Delhi, Del 110 007. The last date for receipt of completed Application form is Monday, May 2**

Prof. P. S. GROVER (HEAD

Atleast 10 years' teaching experience at e University/P.G.College/Institution of gher learning or research with adequate owledge of educational research planning d administration.

Application should be made on escribed form obtainable from this office payment of Rs. 10/- by cash or through ossed Indian Postal Order in favour of egistrar, University of Jodhpur, at Jodhur. pplicant who desires to obtain form by post ould send self-addressed envelope of x12 cms. size bearing postal stamp of Rs.8/-

Application duly completed should reach is office on or before **31st May, 1991**. No plication will be entertained after due te. Other details will be sent with the ap- ication form.

D.D. Joshi
REGISTRAR

NTERNATIONAL INSTITUTE OR POPULATION SCIENCES

(DEEMED UNIVERSITY)

Govandi Station Road, Deonar,
Bombay - 400088

Applications are invited for the following sts. Details of educational qualifications d experience are given below:

PROFESSOR IN POPULATION TUDIES (One). Scale of Pay: Rs. 4500- 0-5700-200-7300. Qualifications and Ex- erience:

An eminent scholar with published work high quality actively engaged in research. bout 10 years experience of teaching and/or search. Experience of guiding research at ctoral level.

OR

An outstanding scholar with established putation who has made significant con- ibution to knowledge. Specialization: lathematical Demography and Statistics.

ADMINISTRATIVE OFFICER (One). cale of Pay: Rs. 3000-100- 3500-125-4500. ualifications and Experience. Bachelor's egree. Minimum of 7 years experience with least 4 years in senior administrative posi- on. Preference will be given to those who ave experience of working in an educational stitution. Age: Not more than 50 years.

The posts carry dearness and other al- wances as admissible to Central Govern- ent employees of equivalent grade ationed in Bombay. The application form ay be obtained from the Office of the Ad- inistrative Officer either in person or with self- addressed envelope of 25cm. x 12 cm. ffixing Rs. 2.00 stamp. The last date for eceipt of request for application form is 7th May, 1991. The completed application should reach the Director, latest by **10th June, 1991.**

Persons already in employment must send their applications through their employers.

K. Srinivasan
DIRECTOR

ADVERTISEMENT

Applications on plain paper (with biodata, copies of certificates and justification for taking up the assignment) are invited for appointment of two full time JRFs/SRFs/RAs and one part time Lab. attendant/Technician under a CSIR funded project titled "Role of HMG proteins in cellular response during induced carcinogenesis". The JRF should be M.Sc. and hold NET certificate of CSIR/UGC, SRF with M.Sc. and two year research experience, RA with a doctorate, and Lab. Attendant/Technician with matriculation in science. The work involves extensive purification and characterization of HMG proteins, analysis of chromatin structure & function etc. Relevant experience shall be desirable. The completed application should reach the undersigned within 10 days of advertisement.

DR. R.N. Sharan
RADIATION & MOLECULAR
BIOLOGY UNIT
DEPARTMENT OF BIOCHEMISTRY
NORTH EASTERN HILL UNIVERSITY
SHILLONG - 793 014 (Meghalaya)

MANIPUR UNIVERSITY

CANCHIPUR : IMPHAL

ADVERTISEMENT NO. 2/91

(CORRIGENDUM)

Dated, the 1st May, 1991

In partial modification of this office Advertisement No. 2/91 dated 27th February 1991, the essential qualifications for the posts of Assistant Professosr in the Manipur University will be as follows :-

(a) A Doctorate's degree or research work of an equally high standard; and

(b) Good academic record with at least second class (C in the seven point scale) Master's degree in a relevant subject from an Indian University or an equivalent degree from a foreign University.

Having regard to the need for developing interdisciplinary programmes, the degrees in (a) and (b) above may be in relevant subjects.

Provided that if the selection committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard,it may relax any of qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a person possessing a good academic record, (weightage being given to M.Phil or equivalent degree or research work of quality) may be appointed provided he has done research work for atleast two years or has practical experience in

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NICMAR

ADMISSION NOTICE

Diploma

MASTER IN CONSTRUCTION MANAGEMENT

Applications are invited for the 5th batch of Dip. MCM. This programme was started with UNDP technical assistance & in collaboration with M.I.T. & University of Michigan,. USA. It is designed as equivalent to MBA/M.Tech degrees. It is a super speciality management programme focussed on construction industry & infrastructure development sector. Past students found employment with leading construction companies without any waiting period. Two years formal course duration is reduced to 18 months by cutting out all vacations.

Eligibility

B.E./B.Tech/B.Arch with a minimum of 55% marks

M.Sc./M.A./M.Com with 55% marks & 2 years experience

Preference given to sponsored candidates & those who have qualified through GMAT/CAT/GRE/GATE

Commencement : July 22, 1991

Information Brochure with application forms available from the Registrar on payment of Rs 30 or US$ 5, payable by D/D only drawn in favour of NICMAR. Last date for submission of completed application forms is **May 31, 1991.**

NATIONAL INSTITUTE OF CONSTRUCTION
MANAGEMENT AND RESEARCH
Walchand Centre, Tardeo Road, Bombay 400 034

a research laboratory/organisation on the condition that he will have to obtain a Doctor's degree or give evidence of research of high standard within eight years of his appointment, failing which he will not be able to earn future increment until he fulfils these requirements.

Applications for the posts of Assistant Professors mentioned in this office Advertisement No. 2/91 dated 27th February 1991 will be accordingly received by the University till the **15th May, 1991.** Candidates who have already applied need not apply again.

Th. Joychandra Singh
REGISTRAR

DEVI AHILYA VISHVAVIDYALAYA, INDORE

169, R.N.T.MARG, INDORE-452 001

NO.ESTT/III(2)/91 Dated: 24.4.1991

EMPLOYMENT NOTICE

Applications in the form available from the undersigned on payment of Rs.10/- in person or Rs. 20/- by means of a Crossed I.P.O./D.D. payable to the Registrar, Devi Ahilya Vishwavidyalya, Indore are invited for the following positions. Completed application form should reach the undersigned by **7th June 1991.** Late applications; applications on plain paper or suggested candidates can also be considered. Minimum qualifications and pay-scales are as prescribed by U.G.C. Candidates may be considered for lower position.

(1) UNIVERSITY LIBRARIAN - 1 : Desirable SP. - Ph.D. and experience in Computerization.

(2) MANAGEMENT STUDIES -(A) PROFESSOR - 1 Desirable SP.- Marketing/Fiancial Management/MIS. (E) LECTURER - 3 : Desirable SP.-MIS, Computer Applications, Marketing, Production Management, Financial Management, Preference will be given to candidates having experience of teaching MBA classes.

(3) LECTURER IN PHYSICAL EDUCATION-1:SP.-Track & Field and Physiology of exercise. Desirable – Competence to teach Physiotherapy or Sports Journalism and interest in Rhythmics and camping.

SC/ST reservation as per rules; second class railway/bus fare for distances above 250 Km. payable to those invited for interview. SP- denotes specialization.

C. P. Modi
REGISTRAR

UNIVERSITY OF KALYANI

CORRIGENDUM

ADV. NO. 2/91 DT. 18.4.91

"Read " reserved for S.C. "after" Lecturer in History one plan post". Last date extended upto **18 May, 1991** for this post only.

P. Sircar
REGISTRAR

UTKAL UNIVERSITY

No. Estt.I/1041-C/Vol.V/ 9314/91

Dated 3.5.1991

SECOND Corringendum to Advetisement No. Estt.I/1041-C/Vol.V/6022/91

1.The posts of lecturer in Business Administration under Serial No.6 of the Advertisement be read as follows:-

Business Administration- (Four).

1 (S T)- M B A/M A in General or Ind
Psychology

1 (S T)- M B A/M A or M.Sc in Ma
with specialization in Statistics/M A
M.Sc in Statistics.

1 (General)- M B A/Economics M A w
specialization in Business Econom
and/ or International Business.

1 (S C) -M B A/M A in Personnel Manag
ment and Labour welfare

2. The last date for receipt of applica all the posts extended upto 20.5.91 (Twe tyeth May,. 1991).

REGISTRA

Eastern
Economy
Edition

Essence of Hinduism

by

Dr. Durga Das Basu

Saraswati, Vidyavaridhi, Prajnabharati, Nyayaratnakar, Neeti Bhaskara,
M.A., LL.D. (Cal.) D. Litt. (Burd.), D.Litt.
(Rabindrabharati), 'Padmabhusan', 1985.

"The aim of every religion is to lead man to a higher life. Anything that does not conduce to this ultimate goal cannot be regarded as the essence of that religion."

Dr. Basu is well versed in the study of the Vedas and Upanishads, and this book is based on his deep knowledge of and insight into Hinduism and its perennial teachings.

141 PP *6 1/2" X 9 1/2"* *Rs. 75.00*

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Indian Veterinary Research Institute

Izatnagar 243122 Bareilly (U.P.)

ADMISSION NOTICE 1991-92

Corrigendum

Refrence above advertisement published on 3rd and 4th cover of "University News" dat May 6,1991. The following corrections are intimated:-

Note

Para II: In last two lines of this note delete the words "obtain the proof of pass qualifying Examination before appearing in the written Examination".

Substitute it with the words "Submit their marksheets by 18th July, 1991 and proo passing the qualifying Examination at the time of registration".

ANNAMALAI UNIVERSITY

NOTIFICATION

(Full-time)

Applications are invited for admission to the following courses for the academic year 1991-92.

	Cost of application form & Prospectus
M.A. Degree **Branches:** 1. Philosophy, 2. Psychology, 3 History, 4. Political Science, 5. Economics, 6. English, 7. Tamil, 8. Sanskrit, 9. Linguistics, 10. Sociology, 11. Population Studies, 12. Development Studies, 11. Applied Economics, 14. Translation, 15. Hindi Translation; and 16. Gandhian Studies.	Rs. 27/-
M.Sc. Degree **Branches:** 1. Mathematics, 2. Statistics, 3. Physics 4. Chemistry, 5. Bio-Chemistry, 6. Botany, 7. Zoology, 8. Geology, 9. Marine Biology & Oceanography; and 10 Coastal Aquaculture.	Rs. 27/-
M.Com. Degree (Both English & Tamil Medium)	Rs. 27/-
B.Ed. Degree	Rs. 27/-
M.Ed. Degree	Rs. 27/-
Post-Graduate Diploma Courses 1. Tourism, 2. Archives Keeping, 3. Econometrics, 4. Gandhian Thought, 5. Ramalinga Philosophy, 6. Guidance and Counselling, 7. Corporate Secretaryship, 8. Applied Linguistics, 9. Insurance, 10. Public Administration, 11. Banking Law and Practice, 12. Population Education; and 13. Statistics.	Rs. 27/-
Post M.Sc. Diploma Course —Hydrogeology	Rs. 27/-
Master of Library & Information Science (M.L.I.S.)	Rs. 27/-
Bachelor of Library & Information Science (B.L.I.S.)	Rs. 27/-
Certificate Course in Library Science	Rs. 10/-
Title of Isaikalaimani	Rs. 10/-
Title of Natanakalaimani	Rs. 10/-
B.Music	Rs. 10/-
Diploma Courses 1. Tamil, 2. Advanced Diploma for Proficiency in French, 3. French, 4. Linguistics, 5. Languages (Tamil, Telugu, Kannada, Malayalam, Sanskrit, Hindi), 6. Journalism; and 7. Folklore.	Rs. 10/-
Certificate Courses 1. French, 2. Journalism, 3. Folklore 4. Reprography and non-book materials, 5. Languages (Tamil Telugu, Kannada, Malayalam, Sanskrit, Hindi), 6. English for communication.	Rs. 10/-
B.P.E.S.	Rs. 25/-
M.P.E.S.	Rs. 25/-

The application alongwith prospectus can be had from the REGISTRAR, ANNAMALAI UNIVERSITY, ANNAMALAINAGAR-608
02 on payment of amount indicated against each course in person or by sending a Demand Draft drawn in favour of the REGISTRAR,
NNAMALAI UNIVERSITY payable on Indian Bank or Bank of Madura at ANNAMALAINAGAR or State Bank of India at CHIDAM-
ARAM alongwith a requisition and a self-addressed envelope of size 10 cm x 13cm stamped to the value of Rs.1.80 with the name of the
ourse for which the application form is required superscribed boldly on the envelope. The name of the course should be clearly indicated
the requisition letter. The application form together with the prospectus will be issued from 10.5.1991.

The last date for the receipt of filled in application by the University is **14-6-1991.**

The University will not be responsible for any postal delay.

Dr. PR. KARPAGAGANAPATHY
REGISTRAR

o.K2/5/91
nnamalainagar
ated 30-4-1991

ANNAMALAI UNIVERSITY

ANNAMALAINAGAR

SCHOOL OF MANAGEMENT

MBA (MASTER OF BUSINESS ADMINISTRATION)
(2 Years Full Time Programme) — 4 Semesters

Applications are invited for Admission, for the Academic year beginning from July 1991.

Eligibility : Admission to M.B.A. courses shall be open to Graduates of
(Full time) recognised University having any one of the following qualifications:

	Minimum of Marks
B.A., B.Com., B.B.A./B.B.M.	55%
B.E., B.Tech., B.Sc. (Agri)., B.Pharm., B.Sc., B.V.Sc.	60%
Post Graduate Degree holders	55%

NOTE : For S.C./S.T. — pass in any degree is adequate.

MBA (MASTER OF BUSINESS ADMINISTRATION)
(3 Years Part Time Programme) — 6 Semesters

Eligibility : Above qualification (atleast second class)
(Part time) with two years experience as Executive.

Selection :

All eligible applicants will have to appear for a Written Test in Academic aptitude, Numerical ability, an general knowledge.

The written test will be conducted on **June 29, 1991**, Saturday at Anamalainagar/Madras/Calcutta/Delhi/Bombay/Hyderabad. (Depending upon sufficient number of applicants at each centre)

Those who qualify in the written test will be called for group discussion and interview at Annamalainagar o July 2, 1991. Self supporting foreign Nationals may be considered against open seats on the basis of the performance in the selection tests.

How to apply : For application forms and Information Booklet please write to:

The Registrar, Annamalai University, Annamalainagar - 608 002

enclosing crossed Demand Draft (Indian Bank) in favour of "The Registrar, Annamalai University" payable a Annamalainagar for Rs.100/- and one 29x25 cms self addressed envelope stamped for Rs.6/-. Application for will be issued from 10-05-1991.

LAST DATE FOR RECEIVING COMPLETED APPLICATION FORMS IS **14-06-1991.**

ANNAMALAINAGAR
Dated 15-4-1991

Dr. PR. KARPAGAGANAPATHY
REGISTRAR

Published by SUTINDER SINGH, on behalf of the Association of Indian Universities, AIU House, 16 Kotla Marg, New Delhi-110002. Grams: ASINDU. Phones: [illegible] and [illegible]. Telex: [illegible] AIU IN. Printed by [illegible] (P) Ltd at [illegible] Printers, [illegible] Extension, New Delhi-[illegible]. Tel. [illegible]

ISSN-0566-2257

University News

Y, MAY 20, 1991

Rs. 2.50

Sir Andrew (Fielding) Huxley, Nobel Laureate, receiving a degree of Doctor of Science (Honoris Causa) from Prof. Bh. Krishnamurti, Vice-Chancellor, University of Hyderabad at the Fourth Convocation of the University. Justice M. Hidayatullah, former Vice-President of India and Chancellor, is on the extreme right.

ASSAM AGRICULTURAL UNIVERSITY

ADMISSION NOTICE NO. 1/1991

Applications in prescribed forms are invited for admission into the following de programmes of the University in the Faculty of Vety. Science, Assam Agricultural Unive Khanapara, Guwahati-22 under course credit system for the session 1991-92 commencing 29th July, 1991.

(A) **M.V.Sc. and Ph.D. Programmes in the disciplines :**

1) Animal Genetics and Breeding (2) Animal Nutrition (3) Animal Production Management (4) Veterinary Anatomy & Histology (5) Veterinary Gynaecology, Ob A.I. (6) Veterinary Medicine, Public Health & Hygiene (7) Veterinary Microbiolog Veterinary Parasitology (9) Veterinary Pathology (10) Veterinary Physiology and Veterinary Surgery & Radiology.

(B) **Only M.V.Sc. Programmes in the disciplines :**

1) Extension Education and (2) Veterinary Pharmacology & Toxicology.

Prescribed application form alongwith prospectus containing detailed instruction inclu no. of seats, eligibility criteria etc. for admission may be obtained from the office of the Dir of Post-Graduate Studies, Assam Agricultural University, Khanapara, Guwahati-22 on ment of Rs. 20.00 (Rupees twenty) only in terms of crossed Indian Postal Order drawn in fa of the Director of Post-Graduate Studies, Assam Agricultural University, Khana Guwahati-22, either personally or by sending self addressed stamped (Rs. 3.00) envelo size 10x23 cm.

Applications complete in all respect must reach the Director of Post-Graduate Stu Assam Agricultural University, Khanapara, Guwahati-22 **on or before 7th June, 1991.** didates who are employees of the State Government or any other organisation must a through proper channel and have to produce deputation/release order if selected, at the of admission. Candidates applying under the reserved quota will have to be sponsored b ICAR or the respective Government.

Candidates fulfilling the minimum academic requirements shall have to appear befor Selection Committee as and when called for at their own expenses. Selection will be do the basis of performance in the interview as well as academic records and the decision o Selection Committee will be final. Selected candidates who are employees of the Governments or any other organisation shall have to furnish a copy of the order of dep tion/or release from Govt. employers at the time of admission.

Regarding Ph.D. Programme, the University reserves the right to refuse admission in ject(s) in case there is shortage of teachers in the concerned department at the time of a sion.

Application for admission into the University Hostel (Subject to the availability of s shall have to be made in separate prescribed forms.

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NEWS

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litor :
JTINDER SINGH

EXAMINATIONS
A Call for Reassessment

M.C. Arunan *
Jennie Mendes *

Recently a police man friend has gone on leave, to his native village. It is rather unusual for him to do that during this time of the year, for, normally his annual visit coincides with the ripening of Alfonso mangoes. But now his nephew is appearing for the SSC examination and he as a police person will be of tremendous help to the boy in "managing" the examination. In fact, students and parents resort to varying methods of "management" – some ethical, some unethical. The end result is devaluation of education itself.

The unbearable pressures the examinations cause at the and of every academic year on students find expression in leakage of question papers, mass copying, payments of bribes to evaluators, boycotting examinations and other malpractices. As the 1985 report "The Challenge of Education – policy Perspectives" rightly summarises, "consequently, degrees and grades do to generally command credibility as a whole with the public as well as employers in the public and private sectors and the whole process of higher education has become warped, disoriented and dysfunctional, producing a large number of unemployable young men and woman." As a matter of fact the first University Education Commission (1948-49) which made a detailed analysis of the problem pointed out that "undue and unnatural emphasis" was placed on examinations in this country and they exercised such a strangulating influence over the entire field of education "as almost to nullify its very purposes". Radhakrishnan Commission was emphatic: "We are convinced that if we are to suggest one single reform in university education, it should be that of examinations".

The Kothari Commission was equally clear about the demeaning effect of examinations on education." In the present system", it reported in 1966, "when the future of students is totally decided by one examination at the end of the year, they pay minimum attention to the teachers, do little independent study throughout most of the academic year and cram desperately for the final examinations. The crippling effect of examinations on the quality of work in higher education is so great that examination reform has become crucial to all progress."

It is interesting that the 1985 report does not read any different. "In this context, it appears self-evident that the present system of annual examinations will have to be modified since, these, more than any other factor, have contributed to the deterioration in quality." Why is it that in spite of clear awareness of the damaging influence of examinations on the educational system we were not able to do anything about it? What is it that makes examinations the "holy cow" and allows it to ride roughshod over virtually every aspect of education from curriculum, teaching, educational material, enrolment of students and even to the quality of teachers?

In fact, it has never been seriously questioned as to whom examinations benefit. More than anyone, it is the employers who have been the beneficiaries of the annual examinations as it aids them in personnel selection. A significant number of others are also collateral beneficiaries of the annual examinations – business: from parents and students with clout, teachers and educational bureaucrats with little scruples to private coaching classes and publishing industry. In effect, examinations serve virtually all except the genuine constituents of the educational system !

(Contd. on page 6)

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Admission to Medical Colleges in India

From Chaos in Rules to a Rule of Chaos

N. L. Mitra*

This interesting article throws fresh light on the genesis of increasing litigation in the area of admissio to medical colleges. One could legitimately ask if a Central Education Tribunal as proposed by the La Commission of India (*University News* , 3 July, 1989) consisting of experienced academics too – as i members could not have done the job better than the Supreme Court of India itself.

Introduction

The growth of middle class in India has perhaps a connection with the increasing demand for medical and engineering education. And with the increasing demand increase the state government's regulations on admission as also litigations in the courts. Number of litigations increased alarmingly in seventies and eighties. As a result, many incidental legal issues were raised on the nature and quality of regulations, restrictions and reservations imposed by different state governments. It may be easily presumed that issues presently litigated in medical and technical education today may certianly be raised in other fields of studies tomorrow. In this short write-up we shall try to see how the Supreme Court of India is trying to evolve a system out of a maze of rules of admissions prepared by state governments with all sorts of conflicts and confusions but at the same time creating many other conflicting and confusing issues for itself to resolve. One example shall suffice to show the growing complexity. Litigation on the medical admission, both at the undergraduate and at the postgraduate level, as reported in All India Reporter, has gone up by more than 250% in the later five years of eighties over the former five years.

Debate on Domicile

One of the earlier reservations made by states was putting domiciliary clause for admission into medical colleges. That used to mean students domiciled in the state were only to be considered for admission in the medical colleges of the state concerned. The question incidentally raised was about the exact connotative and denotative meaning of the word 'domicile'. In *Pradeep Jain's case*[1] the Supeme Court of India (SCI) through an obiter held that "the Constitution .... recognises only one domicile in India"[2]. and in justification re to Halsbury's Laws of England where it is state domicile is "the legal relationship between an indi and a territory with a distinctive legal system *Vasundra V State of Mysore*[3] SCI looked into the ing of 'domicile' and held that in India there is on domiciliary status, that of India. So where th domiciliary restriction stipulated, SCI would int it as a residential quality as was understood in *Joshi's*[4] and *Vasudhar's case* [5].

Residential/Institutional Restriction

Though in *D.P. Joshi's* case[6] itself the SCI hel the "concession given to the residents of the presumably because some of them would settle and serve the local people, was not vitiative of A and in *P. Rajendran's* case[7] district-wise selectio admission was held to be violative of Art 14, the r for residential restriction to be considere reasonable classification is clearly stated by Dua, *D.N. Chanchala's* case[8] thus:

> "the object of selection for admission to the cal colleges considered in the background c Directive Principles of State Policies contain our Constitution, appears to be to select the material from amongst the candidates in not only to provide them with adequate mea livelibood but also to provide the much n medical aid to the people and public b generally"

In the *Chanchala's* case contest was abou University's regulation reserving 80% of the sea the students passing PUC Examination of the Un sity and 20% seats were only open to all other didates. Krishna Iyer J. observed in connection validating such kind of reservation in *Jagadish Sa* case[9], "where the human region from which alu an institution are largely drawn is backward ——

Professor, National Law School of India University, Central College Campus, Bangalore 560 001.

ision of a high ratio of reservation hardly militates ıst the equality mandate..........". In *Pradeep Jain*[10] Court opined that it was "not possible for us to ....that residence requirement in a State for ad- ion to M.B.B.S. course is irrational and ir- vant......". However, in the case a Central ernment's policy statement was appreciated by the rt which suggested that "Central Government is rally opposed to the principle of reservation based omicile or residence......... In view of the territorial- ticulated nature of the system of institutions of er learning.......... there is no objection however, to ılating reservation or preference for a reasonable ıtum in undergraduate courses for students hailing ı the school system of educational hinterland of the tutions......." *Pradeep Jain*[11] is a landmark on the e becuase in this case the SCI took two clear sions, viz.,

1. freezing reservations from all accounts to 70% of the seats of M.B.B.S. courses of all medical institutions of the country with exceptions to All India Institutions; and
2. directing 30% seats to be filled up exclusively on the basis of merit through on All India Entrance Examination or through State-Level entrance tests.

Close to the heel of Pradeep Jain's decision *Dinesh- nar and others* filed writ petitions against Motilal ıru Medical College and others 12 pointing out that hing was done by anybody to implement the decision SCI in *Pradeep Jain*. SCI in this case directed the ian Medical Council to come forward with a positive eme for conducting such an All India Entrance Ex- nation and pending final disposal asked the college hority to grant admission to the petitioner. In view lifficulties in implementing the decision of *Pradeep* ı[13] stay was given and finally SCI itself devised delines for conducting an All India Entrance Ex- ination every year w.e.f. 1987. The guidelines were ollows:

(a) Not less than 15% of the total seats (not 30% as decided in Pradeep Jain's case) in each Medical College be filled on the basis of All India Entrance Examination both in the postgraduate and in the undergraduate courses;

(b) SCI did not limit the reservation for SC/ST and OBC to 50% of the total seats and left the matter to the state governments to prescribe reservation without violating constitutional guarantees;

(c) The State of Andhra Pradesh and Jammu & Kashmir be exempted from the operation of judgement in *Dinesh Kumar's* case. Students from these states will not be entitled to appear in the All India Entrance Test unless these States agree to surrender 15% of the seats of Medical Colleges of the state concerned to candidates for this All India Test;

(d) Syllabus prepared by the Indian Medical Council for the test was approved;

(e) The Central Board of Secondary Education (CBSE) would hold the test every year;

(f) The medical colleges excepted from the operation of the decision of *Pradeep Jain* would remain outside the scheme;

(g) The test would be held once a year, its bulletin to be available every year by February 1, commencing from 1987 and the result to be available between June 15 to 20.

An activist Supreme Court, for the first time, started specifying guidelines and setting programme schedules which were exclusively the jurisdiction of the executives thus far.

All India Medical Entrance Examination

As soon as these gudelines were declared several writ petitions were filed for consideration of several other critical issues. There was scope for such litigation because no Rules were framed by any appropriate body for conducting the All India Test. 1987 Examination had to be postponed but states were directed not to fill up that 15% quota. Most of the state governments wanted the scheme to come into operation only from 1990. Ultimately, Court had to withdraw the 1987 examination. After hearing all concerned the Court finally directed that "the scheme be operative from the 1988-89 academic session". Objections on syllabus were rejected and English was directed to be the only medium of examination. Finally the first test was conducted in 1988 by the CBSE. On the basis of the test a merit list of 1600 candidates together with another list of 1000 candidates were sent to the Director General of Health Services (DGHS) for admission into M.B.B.S./B.D.S. courses in various medical colleges in the quota of 15% seats allocated for such All India Test. Out of that list of 1600 DGHS allotted 1428 candidates for MBBS courses and 111 to BDS courses. Out of them 532 candidates did not turn up for admission. A bunch of writ petitions followed asking the SCI to give another set of guidelines for filling up those resultant vacancies[14]. SCI could only dispose off these writ petitions in 1989 directing further guidelines and meanwhile the vacancies remained unfilled. The court considered the time gap to be not considerable for filling up the vacancies. However, on enquiry it was found that many vacancies remained unfilled at the end. Anyway, the directions for filling up the causal vacancies were as follows:

(a) Candidates allocated to Dhanbad Medical College should first be reallocated because the College was yet to be recognised by the Medical Council (MC);

(b) Candidates who have first opted for MBBS course or did only opt for the same and were asked to get admission in BDS course for want of seats in the MBBS course should now be reallocated seats in the MBBS course in oder of merit;

(c) thereafter, vacant seats be made available to candidates in the waiting list in order of merit;

(d) Maximum of 21 days time be given for completion of admission procedure;

(e) Seats in MBBS course already allocated be not disturbed;

(f) DGHS may consider the allotment on the basis of nearness of a candidate's home to the allotted college in the case of 532 vacancies and the candidates allotted to Dhanbad Medical College as well.

A writ petition was filed by the *Citizen's Action Committee of Nagpur* [15] for declaring Nagpur as one of the centres of examination. The Bombay High Court holding that there was delay in filing the writ petition in so far as the application being filed after the last date of the receipt of the applications and also that it was not possible to alter the examination schedule except with the leave of SCI, rejected the petition.

Now, there was another problem. Students are admitted in medical colleges through different types of tests and from different types of categories. The issue raised in *Miss Sumedha Kalia and others v. State of Haryana and others* [16] was about the right of the waiting list candidates prepared on the basis of the test of the University over the unoccupied seats under the All India Test. The Punjab and Haryana High Court held that the petitioners had got a legal right to be admitted to the seats which were lying vacant. The Court further held that the seats if available being unfilled for some reason or other, whether those reasons were within the control of the authorities or beyond their control, it could not successfully be argued that such seats should go waste. The Court could order that unfilled seats be thrown open for admission to the candidates who were on the waiting list in the open category. In view of Note I of the Prospectus even all the seats meant for various reserved categories were liable to be filled up fro
open category if those seats remained unfilled.

In another important issue raised due to the c
quence of Supreme Court guideline that An
Pradesh and Jammu & Kashmir would remain ou
the scheme,the virus of Article 371-D(2) (b)(iii)
(c)(ii) of the Constitution as also the Andhra Pra
Educational (Regulation of Admission) Order, 19
a consequence of which the students of Andhra Pra
have been excluded from competing in the All I
Test, was tested in *Dr C. Surekha v. Union of India*
others [17]. The Court however, declined to give a
decision on the issue raised because the petitioner
admitted in a Medical College and his grievance
been, to an extent, mitigated. But the issue rema
unsolved for future.

Another related issue was raised in *Paramjit S*
Sodhi v. State of Punjab and others [18]. If in a S
Entrance test a different system is adopted whic
different from the one followed in the All India T
can the candidate challenge the system after becon
unsuccessful in the State test. The Court held that
petitioner having competed at Pre-Entrance Exam
tion and lost could not subsequently challenge nor
such examination on the ground that such system
not adopted for All India Test. The decision seem
be not beyond criticism.

In near future the Supreme Court can well find
number of writ petitions increasing due to many is
arising out of All India Test which were yet to be
malised.

Other Types of Litigations

Admissions to medical colleges are done thro
many types of systems. In some states under the dir
tion of the state government a Joint Entrance Tes
conducted; in some other states, universities cond
Entrance Test under Rules prepared by the universit
There are several grounds of reservations like, reser
tions for SC/ST/OBC as provided within the Cons
tional framework; reservation for institutional stud
18(a); District-wise reservations 18(b) and selectio
reservation for socially and economically backw
community, reservation for employees' wards 18
reservation for the disabled; reservation for resident
the State; reservation for sportsmen 18(d) etc. A
matter of fact reservation has become a rule, meri
exceptional criteria. All India Test, from that poin
view, has come as a welcome step for the general s
dents.

There was large litigation regarding the sports qu *iss Daljeet Kaur v State of Punjab and others* [19] the tioner contended that once she possessed the mini- n qualification for admission into a Medical College, Sports Certificates, or in other words, her ability in sports should be the only criteria for selection of rtsmen & women in the sports quota. The Punjab Haryana High Court held that under the policy of government "for admission to Medical Colleges in State, academic excellence is not given a go-by even reserved categories." The court held rightly, "When main object is to produce doctors and not rtsmen, the Government policy in that regard is ented to achieve academically sound doctors but rlaced, within tolerable limits, some sports element." *Sofia Dahiya v. Maharishi Dayanand University and ers* the same High Court held that not admitting the itioner when she fulfilled all other conditions only ause her sports certificates were signed by the puty Director of Sports and not by the Director nself, was improper.

stgraduate Medical Education

In *Pradeep Jain's* case Bhagwati, P.N., J. extensively oted two reasons given by Krishna Iyer, J. in *Jagadish ran* [20] arguing merit to be the only consideration in postgraduate and research level. It was argued that t the level of Ph.D., M.D. or levels of higher proficien- where international measure of talent is made, where ing one great scientist or technologist in the making a national loss," merit must be the only criteria. The urt in *Pradeep Jain*[21] ultimately decided that residen- l and institutional reservation should in no case ex- ed 50% of the open seats available for admission. In *nesh Kumar* [22] the quota of open seats has been vised to 25% to be covered by the All India Test. SCI so held that "only one examination in a year shall be ld for the postgraduate courses. It will not be neces- ry that at the time of appearing for the examination e student should have completed compulsory rotating ternship/practical training programme and obtained gistration from the Medical Council of India or any of e State Medical Councils." The Scheme came into eration w.e.f. 1988-89 academic session. In *Reita irankari v. Union of India* [23] the Court directed to clude Andhra Pradesh and Jammu & Kashmir from e operation of the scheme. In the decision in *Dr rekha*[24] the Court held that Art 371-D did not militate gainst the basic structure of the Indian Constitution.

Out of the various State practices in *the State of ajasthan v. Dr Ashok Kumar Gupta and others* [25] the CI held that adding 5% marks with the individual's ore provided the applicant was of the same institution, as unconstitutional and violative of Art 14. In *Dr Sheela Ashok Patwardhan v. The Dean, V. M. Medical College, Solapur and others*[26] the SCI directed the College authorities to admit her in the postgraduate course because she was refused application form on the ground that she was a medical graduate of Andhra University; so any medical graduate serving in any other state might not be refused admission on the ground that Andhra Pradesh candidates are not allowed to appear in the All India Test.

In *Rajkumar Panditia v. State of J & K and others* [27] the J & K High Court held that credit for rural service could be given for the purpose of postgraduate admission but that has to be reasonably applied.

Admission to Super-specialization Courses

In *Dr Fazal Ghafoor v. Union of India* [28] the Supreme Court disposed of the petition observing that there should be no reservation whatsoever in the admission to super-specialization courses like neuro-science, cardiology etc. This is so "in the general interest of the country and for improving the standard of higher education and thereby improving the quality of available medical services to the people of India." The Court further directed that "the Government of India and the State Governments shall seriously consider the aspect of the matter without delay and appropriate guidelines shall be evolved by the Indian Medical Council so as to keep the super-speciality in medical education unreserved, open and free." The decision in *Dr Fazal Gafoor v. the Principal, Osmania Medical College, Hyderabad and others* [29] seems to be quite puzzling in view of the precepts formulated by the SCI for the last few years holding that admission into the super-speciality courses of study in medical education must only and strictly be on the basis of merit. In this case, the college and the whole state had only one seat in the super-speciality course in Neurology. It was held that the refusal to admit the first candidate topping the list in the selection test, on the ground that the candidate did not hail from the local area, was valid and not violative of Article 14. Of course the Allahabad High Court has invalidated admission to super-speciality courses in medical colleges and directed the state government to admit students in such courses strictly on the basis of merit [30].

Conclusion

The area is becoming growingly very sensitive and litigative. Though at times Court takes an attitude that it is not to interfere with the actions of the management in ordinary situations of admission to medical colleges[31], yet on any small pretext candidates go to the Court because that is the only means of getting justice accordingly to the applicants. With the growing power of the executives and the various interferences that are made, students only feel that more and more judicial review can keep the system functioning properly, and hence increasing litigation!

References and Notes

1. **Pradeep Jain and others v. Union of India & others** AIR 1984 SC 1420
2. **Ibid** at page 1427
3. AIR 1971 SC 1439
4. AIR 1955 SC 334
5. AIR 1971 SC 1439
6. **Supra** note 4
7. AIR 1968 SC 1012
8. AIR 1971 SC 1762
9. AIR 1980 SC 820 at page 834
10. **Supra** note 1 at page 1438
11. **Ibid**
12. AIR 1987 SC 2396
13. **Supra**
14. AIR 1989 SC 386
15. AIR 1989 Bom 178
16. AIR 1990 P&H 239
17. AIR 1989 SC 44
18. AIR 1990 NOC 71 (P&H)
18. (a) **Supra** Note 8
18(b) **Supra** Note 7: District-wise admission held violative of Ar
18(c) Reservation of seats for employees of the universities their wards is unconstitutional. See AIR 1990 P&H 107 (NOC
18(d) AIR 1990 P&H 187
19. AIR 1990 P&H 176
20. AIR 1980 SC 820
21. **Supra**
22. **Supra**
23. AIR 1984 SC 1569
24. AIR 1989 SC 44
25. AIR 1989 SC 177
26. AIR 1989 SC 382
27. AIR 1989 J & K 37
28. AIR 1989 SC 48
29. AIR 1988 SC 2288
30. Dr Rashmi Kant v. Principal, G.S.V.M. College, AIR 1989 Al
31. AIR 1990 MP 171

Examinations – A Call for Reassessment

(Contd. from page 1)

However sensible employers do not rely on the annual examination-based results and insist on conducting their own tests for the selection of candidates. They surely use marks doled out by the university but for a peripheral reason : to eliminate a large number of candidates so as to make the quantum manageable for them to process. This is also the only logic behind the cut-off mark of sixty percent etc. Not that anybody has any illusion about its sanctity. Afterall, what pray, is the difference in the quality of one candidate with sixty percent and the other with say, fifty-nine percent? That too when the course structure, the types of test items or the method of assessment and the quality of evaluators differ from one university to the other. Still by all means it is a convenient method to keep numbers at bay. Hence a mythical sanctity is sought to be created about the examination system in the mind of the public. If 60% is a holy mark,the examinations that make it happen should be holy too!

But examinations have a positive role in education – in the process of genuine instruction and more so in learning. Education is a developmental process and in this evaluation of progress is essential. Any examination reform therefore should start with redefining its objectives as it is a part of the educational process and not an end in itself. The external examination system should therefore be replaced by a system of internal and continuous evaluation.

Simultaneously examination for selection purpos should be left to those who have specific objectives this regard. The Public Service Commissions may eminently suited for conducting such tests. In t respect it is heartening to note that not only priva employers but also public agencies have started a ministering selection tests: witness the UGC/CSIR t for Junior Research Fellowship and Lectureship or t common entrance tests for IITs, medical courses et which has already debunked the mythical value of a nual examinations.

However, the down-grading of annual examinatio may look highly unorthodox in our milieu today, thou considering the benefits that will accrue to the soci at large, it is not a day too early to introduce this mu needed reform in education. An international commi sion reporting to UNESCO as early as in 1972 hope "examinations, the bane of every student's existen may wither away, for they will be meaningless to peop who are learning at their own pace. Above all the a of education will change; the emphasis will be on lear ing, not teaching and products of education will not measured in terms of so much knowledge dispensed, b of so many complete human beings who hav developed."

PRODUCTION OF COURSE MATERIALS IN OPEN UNIVERSITY SYSTEM

T.P. Maitin*

Challenge of Teaching

Education is sensitive process of growth. It is an art of transfer of knowledge and training of manpower. It is a system of mental growth which can be effective only by an organised and sustained effort. This needs development through subsequent stages of approach. A common methodology of education is teaching which is invariably a classroom affair in the traditional system of university. Teaching responsibility in an open university system, however, is of a different nature. It demands a qualitative growth of course materials which are the tools of teaching in the open system.

Teaching is a profession of commitment; it seeks devotion and dedication. It expects involvement, participation, association, affection, cooperation and contribution. It also solicits the support of sound knowledge of the subject. Effective teaching, therefore, is a challenge of combination of at least two factors:

1. *Ability to teach* — mainly developed through a wider study of the subject supported by a sincere command over communication:
2. *Willingness to teach* — a personal quality encouraged by proper motivation and a sense of social contribution.

The challenge of teaching open university students who are distant from the teachers required some additional efforts. One advantage of the traditional system of university education is the personal contact between the teachers and students face-to- face in the classroom. But the success of this system depends on the amount of regard a teacher commands over his students and the level of discipline he is able to enforce in his academic relations. Moreover, successful teaching is a two-way traffic: the best of the ideas being transmitted by the teacher to his students, and an active reception of those ideas in the mind of the students so as to develop their understanding. Thus teaching offers an opportunity to learn a subject as thoroughly as possible.

Effective teaching in an open university system needsa different treatment because the teacher is not necessarily present when the student studies his subject. It is to bridge this gap that suitable course materials have to be developed as a substitute for teachers. This is an indirect or impersonal method. But it must be organised in a manner that the student does not feel the absence of his teacher even in his own house. Development of course materials for open university students, therefore, is a new experiment in the technique of teaching from distance. Obviously, the entire success of this form of teaching technique depends on a more dynamic method of communication.

Channels of Communication

The major forms of course materials for open university students which serve as channels of communication between the teachers and the students are as follows:

1. *Printed Lessons* covering different blocks and units containing the entire course of study of the subject under divided topics.

2. *Video Cassettes* demonstrating an intricate analysis of the subject in a more lively and intimate manner.

3. *Audio Cassettes* recording authoritative lectures on important aspects of a subject.

4. *Students' Newsletters* incorporating digestive articles on different areas of study written by expert teachers, practical hints on examination, self-improvement methods, relevant announcements and supplementary information.

5. *Radio Broadcasts* to explain the selected aspects of a subject in the presentation of talks, features, plays or group discussions.

6. *Educational Telecasts* covering the major ideas relating to a subject in a more colourful and musical way.

These forms of course materials supplement each other. The principal aim is to feed the relevant knowledge to the student from multiple angles. The task is to contribute to the process of mental development in a logical and interesting manner. The basic

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motivation to study, therefore, can only be produced by the proper quality of the course materials. Open university system offers the opportunity of learning by choice. Hence it demands a more active participation of the teachers in producing adequate course materials so that a student may sustain his interest in his studies and can apply concentration of his mind to his studies whenever he feels free to do so.

This is much about course materials in general. Let us now address ourselves to the production of lessons in particular. A good lesson for an open university student needs the following considerations from its authors:

1. Ideas must be presented in a logical manner.
2. The language should be simple to understand.
3. Instead of being a written material, it should be a talk in a conversational style.
4. Let it not be demonstrated that a subject is being taught; facts are merely explained and analysed for a clear understanding.
5. One should be more practical in his approach by giving multiple examples from the daily life.
6. Points should be brief and relevant.
7. Ask questions as frequently as possible.
8. The reader should be fully involved in the discussion.
9. The major points of the material must be identified distinctly.
10. Main points should be summarised in the conclusion.
11. Brief stop-overs at terminals should be offered to help studies in instalments.
12. The whole analysis should be under different headings and sub headings.
13. Continued confusion has to be avoided by explaining the basic concepts.,
14. Affection and friendship must be extended to the reader in the style of expression.
15. One must talk with confidence, be convincing and substantiate the arguments.
16. Both the merits and demerits of a concept must be placed before the reader.
17. What has already been studied must be linked up with the discussions to follow.
18. Overloading of facts and ideas must be kept to the minimum.
19. Complicated ideas should be simplified by answ ing why, how, when what, and who.
20. The reader should be trained to apply knowledge to practical situations independentl
21. Opportunities for self-assessment should be fered frequently.
22. The discussion should be closed at a point when reader is best involved.
23. Questions should be anticipated and answered.
24. The most difficult junctions in the traffic knowledge should be identified and trained cordingly.

Thus production of lessons for distant students is art. It needs not only a professional expertise, but a a specialised communication skill.

Conclusion

Education is communication of knowledge thro an effective transmission of ideas so that the ideas be translated into clear understanding. A lesson is important form of course material and an import channel of communication for open university stude But a lesson is not a substitute for a book; it is also a book. In fact, the author of a lesson is a silent teach He is a guide in air. He talks, but talks to an audie which is not present before him. He thinks, expla analyses, examines, reviews, discusses, evaluates, lustrates, appreciates, criticises, sums-up and c cludes. During all these stages, however, he not o communicates or imposes his scholarship on the rea he also motivates his students, attracts them to his s ject and encourages them to learn. He knows how to invite the attention of his students to his area discussion.

Writing of lessons, therefore, is certainly ser teaching responsibility; but is it a much more challe ing assignment than teaching in a classroom. An o university student places greater trust in his less writer than in his lecturer. The real task is how eff tively we are able to discharge this responsibility producing some outstanding lessons in our area specialisation. Thus the performance of a teacher be judged more by his ability to write good lessons open university students, rather than by his capacity deliver lectures to a class. In fact, the most succes teacher is one who can train his students effectivel classroom as well as produce lessons for distant stud in a lucid and candid style.

CHANGING ROLE OF TEACHER
Formal Vs Distance Teaching

Saroj Pandey*

Teachers have always played a vital role in the educa- nal process and have been key elements for facilitat- ; students' learning. Traditionally it is assumed that rning like process is the result of the interaction tween the teacher and the taught. In this sense ucation is a 1:1 relationship between the two. In fact e teacher has occupied supreme role in the hierarchy educational process from the very ancient period, not ly in India but throughout the world. He has always en supposed to be the moulder and builder of ident's personality. It was he who presented example rough his teaching, his intelligence, diligence and rough his whole personality, before the students to llow. The ancient Guru - Shishya concept implies this l relationship between the two, and the Shishya learnt, iile living in Guru's custody and guidance, not only rough verbal face to face interaction but he tried to itate the whole life style of the Guru. However this eal of a literal 1:1 relationship became impossible th the democratization of education, the upsurge in ople's desire to learn, and the upward social mobility. ven then the traditional education system considers ce to face interaction between the teacher and the ught as the pre-requisite for learning and 'word of outh' as the most powerful and only source of com- unication. The conventional teacher plays an impor- nt and active role in teaching-learning process. He resents, explains, discusses and demonstrates the in- rmation of textbook which results in increasing the arner's knowledge. He actively inspires, motivates id guides the learner in the achievement of education- goals and provides corrective feedback and reinfor- ement to the learner. Although theoretically this eems to be the ideal condition resulting in maximum arning, this system of education has failed miserably develop an independent and autonomous learner apable to take decisions on his own. The teacher erely imparts information to the students which he imself has acquired through various sources and there no place for independent thinking for students. ivergent or creative thinking of student is hardly rein- rced or encouraged. Student's tender mind is treated, not as a living object capable of his own thinking but as an empty vessel which the teacher fills with as much informations as he can. This makes students more dependent and confused rather than making them independent, self confident and self reliant which affects their decision making process and even at the late period their academic life most of them are unable to decide what they want to become in life, which course to choose, and what are their real interests and abilities. The result is mad rush from one course to another which eventually leads to unemployment, frustration and tension in life.

Distance education has come upon the educational scene, not only as an alternative to traditional, rigid, face to face education, but as the most potent strategy for fulfilling the demands of universalization of education which our constitution promises to its citizens. This system of education, with its multi-media approach to teaching, has certainly given a big jolt to the traditional teacher and his concept of teaching learning process. It seems to overcome the drawbacks and lacunas of conventional education by providing education through well planned education materials, advanced audio-visual aids, wider and broader framework for relevant curriculum and by providing opportunities to all willing persons to think and study independently by using their own mental faculties. Distance education is based on the notion that learning is not merely a change in learner's behaviour but it is a modification of learner's consciousness and extension of knowledge throughout the life. So it cannot be limited by such barriers as age, time, experience and qualifications of learner. Each and every individual if he really wants to enhance his knowledge has a right to be educated. This wide and subjective concept of learning emphasises more on the learner instead of the teacher or the curriculum. The learner no longer plays a passive role, instead, he is an independent, autonomous and self-confident entity fully aware of his needs and responsible for his progress. In short, a traditional classroom situation comprises of at least four components:

i) the teacher,

ii) the learner,

Lecturer in Education, Regional College of Education, *hubaneswar (Orissa).*

iii) the subject matter to be taught and learned, and

iv) the communication system

Wedemeyer has graphically presented this situation as follows:

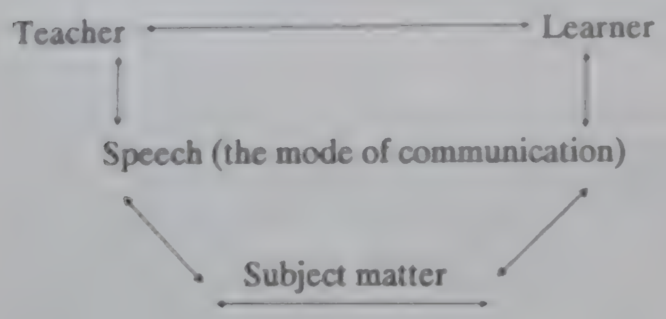

Fig 1: The Formal classroom situation

This traditional model is the result of age old socially accepted norm, that teacher is the most important aspect of teaching learning and 'word of mouth' or face to face interaction facilitates maximum learning. But the invention of printing, writing, telecommunication, educational technology, programmed learning, and teaching machines etc, broke down the absolute monopoly of speech as the only medium of communication and made it possible to record communications and transfer them over distances to as many receivers as one wanted to. This also broke down the absolute monopoly of the teacher over the teaching-learning process and physical presence of teacher was no longer required. These changes also made it possible to organise teaching-learning process in different ways as presented in fig .2.

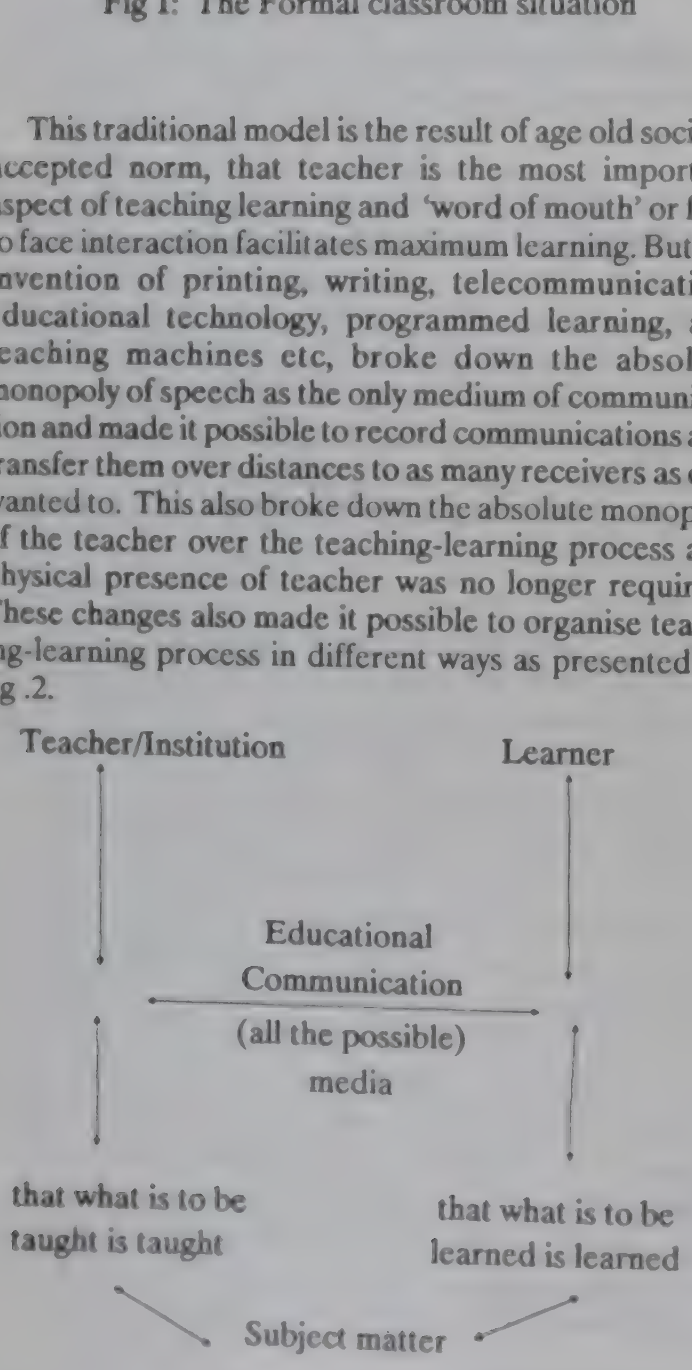

Fig. 2 Distance Teaching-Learning Situation

As it is clear from Fig 2, although all the four e components of teaching learning situation rema intact in this new mode of education, the learner is n considered as an independent entity able to learn hi self and instead of using speech as the only mode communication it takes help of multi-media co munication approach to ensure maximum learni Thus it is possible to break down the confines of cla room; learners can learn on their own,away from th teachers and teachers can teach away from the learne But the above mentioned description does not sugg at any point that teacher has no place in teachi learning process now. Only the emphasis has be shifted now and from teacher centred or curriculu centered approach we have learner centred approa The teacher helps the learner to gain maximum bene of materials while himself remaining in the backgrou collects information relevant to a course unit or top prepares a course unit, gives guidance and counselli to learners whenever they require it and evaluates the progress through their assignments, but does not u necessarily imposes himself on learners. Learners need the help of teachers, and, experience in this fie shows that students performed better when adequa guidance was provided . This also helped to chec dropout rates. Sewart (1973) seems to support th point of view when he argues that only a particul package of materials supplied to students cannot satis the varied needs of learners. Learners' needs are muc wider and complicated to be catered only by thes materials and only a highly organised 'human suppo service' can satisfy it adequately. This only can ensur and guarantee the continuity of concern for student learning at a distance. Thus distance learners do nee the support of a live teacher in spite of high quality self-instructional material. Basic to this line of thoug are two arguments:

i) Electronic media is too costly and there shoul be some pragmatic justification for the use of suc media. Therefore, some other alternative agenc should share atleast partly with electronic media. So th human agency i.e. the live teacher has been thought to be the most effective and readily available agency.

ii) It was also relied that inspite of improved cours design and integrated use of media the ultimat product, the course package, remains a 'constant' agen cy. It needs human versatility to help the distanc learners to exploit this constant agency to satisfy a infinite variety of their needs and difficulties.

Besides, distance education has often been critici that as the teacher and taught are separated from ea other and there is neither any personal element eaching-learning, nor any provision or scope of peer group interaction, this education fails to cultivate the affective domain of learners. The tender feelings of mutual trust, friendship, cooperation, and socialization cannot be cultivated by this type of educational system and it makes the student more isolated, self-centred, and alienated. This argument is true only to some extent and the provision of face to face counselling sessions and contact programmes seem to provide answer to these criticisms. But the nature of these contact programmes are quite different from traditional classroom teaching and instead of giving lectures or describing content to the students, the tutor tries to motivate students to actively participate in discussions, present their difficulties and problems and the whole group interacts with each other. The tutor acts as a catalytic agent providing stimulation to group discussion and directly helping the student to solve his individual problems' which is rarely done by the conventional teacher in monotonous classroom situation.

In conventional classroom situation a large part of lecture is unstructured and the teacher has the privilege to change and modify his lecture at the spur of moment according to the needs of situation. Students also get immediate reinforcement and feedback for their work which maintains their high motivation. They have also the opportunity to interact with their peer group thereby removing their doubts with the help of their friends immediately. It is true that these facilities are certainly not available to distance learners. The distance learner is likely to be more susceptible to anxiety, slackness and frustration and suffer from many handicaps due to his isolation e.g. the isolation from other students often gives rise to the feeling among distance learners that other students think, work and achieve differently and has an dampening effect on his enthusiasm and work. Isolation from tutors accompanies the feeling that one can impress one's teacher or tutor better in fact-to-face situation. A long time gap between the points and questions raised by students and their corresponding clarifications slackens his interest and enthusiasm. It is also said that since in most cases no two students can compare their assessed assignment responses, the scope for healthy competition or peer group interaction is minimal. An answer to all these criticisms is 'academically useful comment' of the tutor. The tutor tries to break the isolation and lack of communication through his comments which he writes on the assignment responses which the students have to submit from time to time during their study. In fact these comments play the most significant role at both — academic and non-academic level between the tutor and the learner. At the academic level these comments are powerful tools to build a road of communication between the two thus breaking the isolation of learner. The teacher through is comments not only provides feedback and helps the learner to assess his own level of performance, but, also inspires and reinforces him to perform better in the future. At non academic level, he tries to establish a kind of personal relationship through his personal and supplemental comments which breaks the isolation and alienation of student and helps in moulding and modifying his attitudes deliberately. The learner is free to ask explanation or clarification from the tutor if he is not satisfied by these comments and the tutor has to oblige. This freedom is seldom possible in conventional teaching where asking such questions may be interpreted as personal insult to the teacher or challenging his knowledge or wisdom about the subject. Therefore whereas the conventional teacher takes the help of 'word of mouth', the distance teacher relies on 'word of hand' for communicating to his students. Other advantage of this mode of teaching over conventional mode is that maximum number of students can be benefited by the good and effective teacher as he is only required to write course materials which can be distributed to a large number of students at a time. The teacher has not only to write a course material but he has to anticipate the difficulties and problems of dis-

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tance learner and provide adequate solution to these problems. This reflects that the job of distance teacher is quite difficult because to design,write and produce self-instructional materials of appreciable quality is a strenous job. It is totally different from production of text-books and requires certain skills. Therefore, training of distance education teachers in the skill of course production and assessment of assignment responses is as essential as the training of conventional teacher in various teaching skills. It will help in providing expertise and practice to teachers to carry out their own specific tasks and duties effectively.

To sum up, it can be said that the increased esteem for distance education is related, at least partly, to greater sophistication and flexibility of teaching methods which have been facilitated by the effective use of new technologies. Distance teachers are more willing to adopt new teaching methods than conventional teachers. It can also be said that distance teachers have been forced to adopt these strategies simply because the conventional face-to-face method does not fulfil their demands. Distance teachers have been more ready than campus based teachers to experiment with personalized systems and instruction, video-cassettes, telephone tuitions, computers and satellites, etc. But this does not mean that face to face teaching is now no longer required or is outdated or just a waste of time, for in my opinion face to face method is one of th effective methods available. No body who b perienced good and stimulating face to face te would wish to deny the power of this instructio would it be easy to substitute it. Distance te themselves take help of this method in regional tu counselling sessions and contact programmes. authors (e.g. Holmberg 1976) have claimed th face to face method is important in achieving aspects of academic socialization. Therefore, it i hard to replace the teacher. The teacher is very there in distance education also, only his role changed tremendously. His physical presence longer required by the learner as the educatio become 'learner centred' instead of 'teacher cen In place of giving lecture to an overcrowed clas the teacher now works behind the curtain motivates and inspires the students to avail max benefit of the material. The emphasis has shifted from the 'word of mouth' to 'word of hand' with the of all available media.

The teacher is indeed very much there in dis education, but with a new and more challenging than ever before and the success of distance educ depends largely on his efficiency and ability as a c writer and material produced if not as efficient lec in the classroom.

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K. L. D
Acting REGISTRA

BREAK THE BARRIERS

Raveendran P.T.*

"Thamaso maa jyothirgamayah"
Thus awakens the world
Rising to come out of the dark
to a world of glow and glory

Laudable is the play of letters
Elegant is the art of learning
From cradle to coffin let us learn
to get out of the sea of ignorance

Today is the world of science
around us revolve revolutions
The studied outdo the unlearned
The learned capture the mighty world

Ignite the dormant talents
to trounce the daily troubles
Imbibe the scientific thinking
to colour the quality of life

The life turns aromatic
the quicker we fondle this art
We find us pacing ahead
rushing to an edified life

Till death from the birth
one has to live his life
Like electricity, Education comes
producing life-long weal

We have a lot to travel
to attain the desired literacy
and to electrify minds of the mass
towards a noble and fragrant life

Extending the hands comes
the magic of distance education
pulverising the routine bottlenecks
and speedily gaining the ground

Though, with little limitations
failing to bring up the unlettered
it comes to our doorstep
to open the wings of parachute

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spreading the light of letters
welcomes you, the new sunlight –
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to lead us to a nascent dawn

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equipped with multi-media style
it frees us from class and lectures
to give us the rank of learner and teacher

Neither we lose our job
nor we miss our study
sit and set our schemes
to get the boundless knowledge

Let's come out at once
to get rid of the lethal sleep
Let's kindle the candle
to start a lustrous life.

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Last date for receipt of filled-in application forms is **Friday, the 14th June 1991**. Applications recei thereafter will not be entertained.

B.V. Selvaraj IA

REGISTRA

THE SOLUTION

Justice R. S. Narula, former Chief Justice of the Punjab and Haryana High Court, delivered the Convocation Address at the seventeenth convocation of the Guru Nanak Dev University, Amritsar. He felt that the values Guru Nanak laid down for the uplift of the spiritual and temporal life of a people held the key to the solution of our present day problems. He said, "Based as they are on Love, Truth, Equality, Fraternity, Tolerance, Social Justice, Dignity of Labour, Equitable dispensation of justice, mutual benefit and common weal (sarbat da bhala), it passes comprehension why they cannot, if resorted to in right earnest, resolve many of the pressing problems that face us today." Excerpts

CONVOCATION

Convocation is a solemn oc- ion and it is customary to have a k at the grave problems that face country and to do some loud nking. The problems that are ring their heads are numerous l they are threatening the very ric of our society. Moral values crumbled and there is a race for wer and pelf with the result that potism, corruption, intolerance, otry and evils of all kinds are lking our land and eating into the als of our society. Conditions, in t, have come to such a pass that country seems to lapse into the rk ages witnessed by India on the of the advent of Guru Nanak. ere was then, as Bhai Gurdas tells and Guru Nanak himself vouch- es it in his Bani, worst kinds of kerings going on between the otagonists of different creeds, ping of unwary people through just of incantations and other holy practices. While this was so en, things even now are not what would wish these to be. Much s lately gone wrong with our body- litic. We have even started hear- to only murmers, but open and blic accusations of corruption even against members of the highest judiciary. Free India had, surely not bargained for this.

The last hope of the people and the greatest safeguard in any democracy is its judicial system. The moment people feel that there is even a possibility of a judgement handed down by a higher court being tainted in any manner the very existence of the democratic system would be seriously endangered. Guru Nanak reacted sharply to such a state of affairs and showed the true path. The same ideas of truth, love and universal brotherhood can show us the path today.

Guru Nanak envisaged development of man's integrated personality. He touched almost all aspects of man's multifarious life. He denounced the practice of renunciation of the world and advocated full involvement in it, seeking all the time a perfect balance between the life mundane and the spiritual. He believed in one God whom he regarded as the sole Creator, by whatever name we may pray to him. From this unity of Godhead and brotherhood of man flowed his doctrine of equality of mankind and its fraternity. He decried caste and all other distinctions based on caste, creed, richness or poverty. He stood with the lowliest of the lowly and considered them worthy of attention not out of compassion but as a matter of right. In the social set up of his thinking women had as high a place as men. He stood for social justice and did not brook exploitation, social or economic. On the economic plane he expected everyone to earn his living through non- exploitive labour and even then to share his earnings with others. He forbade beggary and leading a parasite's life. He required his adherents to put down their ego, lead a corporate life and thus remain subservient to the large interests of the community. On the political plane he envisaged the ruler to be a benevolent master and to heed the advice of his panchas, the elect, lest he should come to harm. To top these all, Guru Nanak ordained Reason and Discernment to be made the guiding principles of all actions whether they be of the religious disposition or of the temporal strand.

These are the values Guru Nanak had laid down for the uplift of the spiritual and the temporal life of a people. Based as they are on Love, Truth, Equality, Fraternity, Tolerance, Social Justice, Dignity of Labour, Equitable dispensation of justice, mutual benefit and common weal (sarbat da bhala), it passes comprehension why they cannot, if resorted to in right earnest, resolve many of the pressing problems that face us today.

The tragedy which is being enacted day in and day out in the Punjab bleeds the heart of every right thinking person. I cannot understand the logic hebind innocent killings by the militants and the loss of the lives of so many budding youths who could have been such great assets to the Nation. This has already led to great estrangement and portends to cross the limits of no return. Youth must recall the Guru's injunction : *na kahun se dosti nakahun se bair*, and show that they have yet the torch of righteous love burning in them. The government too must necessarily assume the role of a benevolent ruler. They must not forget that they are dealing with their own people who have been in the forefront of India's struggle for freedom, backbone of the Indian Army and a source of immense strength to the Agricultural sector of the Indian Economy.

As I look back on the travails through which Punjab has passed during the past four decades, I feel the Punjab has suffered all this agony because adequate efforts have not been made to understand the character, the institutions and the psychology of the people of the Punjab. They are a people who are accustomed to live with honour but are generous to the extent of laying down their lives for others provided they win their trust. Repose your trust in them and see how they respond in any case of emergency.

Events of far reaching consequences have happened in other parts of the world. Two authoritarian Rules have broken down; the one testifying the sagacity and farsightedness of its leaders who have agreed to share power with their constituents in an affable way, the other has learnt the lesson at a great cost. Our leadership too, I suggest, should rise to the occasion and solve the problems of the constituent states amicably. Once distrust vanishes and its contending constituents find their identities for which they seem to be struggling they will automatically move towards greater co-operation and mutual assistance. I believe in strong state units to ensure unity and strength of India. If the effort to rule all the states from the Centre continues, it may ultimately prove counter-productive. Maximum autonomy should be given to the states and no interference should be made in state administration except in a national emergency. The uniform adoption of the political part of the Anandpur Sahib Resolution of 1978 for all the states in India, free trade and industry and scrapping the public sector are bold steps which can save our beloved motherland from the disaster on the brinks of which we appear to have landed.

The logic of greater Common weal will force them to forge unity in diversity as the different communities in Europe are doing just now.

The cold war has ended a divisions erected by the con of the World War II hav demolished. Different nat now coming together in r groupings that seem to tra national boundaries. Techno change too is pushing the w greater inter-dependence a operation. Can we not hope t same phenomenon may perf witnessed in India with the co-operation of the variou stituents?

Hyderabad University Convocatio

The fourth annual convocation of the University of Hyderabad was recently addressed by Sir Andrew (Fielding) Huxley, Nobel Laureate in Physiology and Medicine and Master of Trinity College, Cambridge. On this occasion the University conferred an Honorary Degree of Doctor of Science (Honoris Causa) on Sir Huxley, Dr. C.N.R. Rao, Director, Indian Institute of Science, Bangalore, and Prof. C. R. Rao, Eberly Professor of Statistics of Pennsylvania State University and National Professor of India; and the degree of Doctor of Laws (Honoris Causa) on Justice M.Hidayatullah, former Chief Justice of India and a former Chancellor of the University. The University also honoured the former Chancellors, Shri B.D. Jatti, Shri G. Parthasarathi, and the former Vice-Chancellors, Prof. Gurbakhsh Singh, Prof. B.S. Ramakrishna, and members of the first Executive Council of the University, the senior-most Professor, Reader and Lecturer, and four non-teaching employees of the cadres A, B, C and D.

Presenting his report Prof. Bh. Krishnamurti, Vice-Chancellor said that the University had achieved self-sufficiency in matter of infrastructural needs and facilities. During the course of the yea Vice-Chancellor said, the U sity had started M.A. in A Linguistics, P.G. Diplo Theatre Arts, M. Phil in Re Studies and Ph.D. Program Regional Studies, in Dance a Theatre Arts. Several inte ciplinary courses in various de ments and schools had instituted and several other programmes were also b planned. A Centre for Folk C Studies was being set up with t of the Ford Foundation, Prof. K namurti added.

He said that as many as search projects sponsored by UGC, CSIR, DNES, IC ICSSR, ICHR, had been u taken by the faculty mem Orientation courses and refr courses in Sociology, Pol Science and in Applied Lingu had been organised by Academic Staff College o University.

The University also propos start a Postgraduate Researc stitute in Medical Sciences a School of Management St during the Eighth Plan period

A souvenir listing the pr made by the University durin last 15 years was also released occasion.

CAMPUS NEWS

Workshop on Question Banking

A 3-day Workshop on Question nking in the subjects of Computer ence, Educational Psychology, nking & Accountancy was held at nia Milia Islamia, New Delhi m 29th April to 1st May, 1991. e workshop was inaugurated by P. P. Gupta, Chairman & anaging Director, Computer aintenance Corporation while the ynote address was delivered by . V. Natarajan, Director (Re-arch), AIU.

Outlining the basic principles of uestion Banking and in particular e development of valid and reli-le questions/items in these three bjects through a series of specially nducted workshops getting a rge body of teachers to participate item/question writing, prevalidat-g and interacting, Dr. Natarajan ought to the attention of the three oups the necessity of having a rge variety of questions and items that class tests as well and emester examinations could be put gether with the help of such a large umber of questions and items.

Mr. P. P. Gupta in his address eiterated the need for having a arge collection of veriety of ques-ions to serve different purposes. Narrating from his personal experience he suggested that candidates must be given flexibility in taking the examinations and suggested that the Computers must be used in a big way to both assist and manage examination system. He also offered his services of Core in the process of such computerization to AIU in general and to Jamia Millia in particular.

The Workshop had three lecture presentations from Dr Natarajan in the areas of instructional objective, design of selection type and supply type questions, and prevalidation of question items. At the end of each lecture the participants were put into small groups to do several assignments including choice of objectives and abilities to be tested on the various syllabus topics, preparing selection type items (constant alternative, multiple choice, multiple facet, matching and re-arrangements) and supply type questions (completion question, simple question, short answer questions, long answer and problem sovling questions) in order to enable them to write good quality items and questions. Illustrative examples in these three subjects were circulated for their perusal and comprehension. Each one of the participants then took up a portion of the syllabus given to them and prepared questions and items within the topic content of the chosen area. They then added several technical values to every question, namely, the topic in which the question was set, the ability it purported to test, time for answering, marks that could be allotted for the correct answer etc.

Dr. S. Z. Qasim, Vice Chancellor, Jamia Millia Islamia referred to the unique suggestion of Ramamurthi Committee in having a total Continuous Assessment abolishing External Examinations as are conducted today.

Prof. S. K. Agrawala, Secretary, AIU in his valedictory address emphasised the need for revising and reviewing the Question Bank Books brought out by AIU and made a valuable suggestion that several universities must be identified to carry on and participate in the Question Banks. He was keen to have the feedback from the participants, several of whom gave their impressions about the Workshop.

In all 26 participants attended the Workshop at which 1200 question items were produced. However 1,000 question items were selected after careful prevalidation. Dr. S.K. Wasen, Head, Department of Mathematics, Jamia Millia Islamia, was the Coordinator of the Workshop.

Social Work Curriculum on Family

The Department of Family and Child Welfare and Unit for Family Studies of the Tata Institute of Social Sciences conducted a workshop on developing postgraduate social work curriculum on family from April 15 to 17, 1991. The learner objectives of this curriculum were(1) to critically review the interaction of religion, family law and social policies with family; and draw implications for changes in the law and the policies; (2) to understand family's economic, developmental and interactional needs in the context of institutional norms of family and policies in India and obtain skills in developmental programmes for enriched family living; and (3) to assess families with problems in the context of its institution norms, policies in India, family's developmental stage and family's interaction patterns; and develop skills in a range of appropriate family interventions.

The thrust areas of the curriculum were : (1) Institution of Family and Policies in India; (2) Family living and Developmental Programmes; and (3) Families with Problems and Interventions.

Conceptual frameworks were developed in each area and interdisciplinary topics were identified within these frameworks. The newly identified needs in social work education on family, such as self awareness, public awareness, family law and cross cultural context in interventions were emphasised.

The focus at the workshop was on developing indigenous course material for the topics identified. A critical appraisal was made of Western theories in their application to the Indian situation. Indian literature in these three areas of family curriculum was compiled in the form of comprehensive bibliographies and circulated. Course material was developed on the Indian situation in the international context. Learning experiences to be provided in field work settings were identified for each topic which would be consolidated as field work objectives on family.

The technology of education was reviewed for family courses in terms of innovative methods of teaching and evaluating students. Teaching aids such as field illustrations, audio-visuals and creative literature were compiled and circulated. Uses of these aids were demonstrated at the workshop. In conclusion directions were drawn for consolidation of the course material developed and for training on family.

Prof. Meenakshi Apte and Dr. Murli Desai of the Unit for Family Studies co-directed the Workshop. Resource persons were drawn mainly from among social work educators and some from disciplines such as Sociology, Psychology, Demography and Anthropology and fields such as Home Science, Law, Medicine and Psychiatry.

Four Language Formula

Addressing the university and college teachers at the Academic Staff College of Himachal Pradesh University Dr. Naresh, Professor of Modern Literature and Prof. of Bhai Vir Singh Chair at the Panjab University made a passionate appeal for review of the linguistic policy of India with a view to achieving the ends of emotional integration of the nation and a national identity. He said that reorganisation of states on linguistic basis was the most unfortunate development in Indian history because it resulted in disintegration of the nation instead of uniting it. Identifying certain languages with particular religions and regions had done greatest harm to the nation. A language was merely a medium of communication, he said.

Spiritualism and not the so called secularism could bring solace or salvation to the nation. Religious tolerance, understanding and accommodation had been our traditional way of life, with which we as a nation have to identify ourselves, if we have to live as a nation, he added. Dr. Naresh strongly pleaded for a four language formula instead of the existing three language formula as a solution to the problems created by our wrong linguistic policies.

The whole education should be in mother tongue and Hindi, Urdu and English should be taught from class-5,7 and 8 respectively so that by the time the student passed matric, he would be having working knowledge of all the four languages which he recognised as cultural languages.

Calling Prospective Yo
Entrepren

All unemployed or un
employed youth in the age gro
18 to 35 years who wish to be
entrepreneurs and have the ze
business may contact the Bhar
Yuva Shakti Trust (B.Y.S.T.),
Delhi, for the necessary guid
and financial help.

The Trust, promoted, fu
and managed by the 'Front
Industrialists' of the country
been formed on the lines of
Prince of Wales Young Busi
Trust, U.K., to generate em
ment among the youth.

Its main aim is to help the di
vantaged youth, who have the
education and skills for self-em
ment, but require guidance.
per cent of the beneficiaries o
Trust would be women.

The Trust has been set up to
vide a complete set of serv
screening of proposals, provisi
funds and technical and manag
support. The business comm
would provide poten
entrepreneurs with seed fina
and business guidance.

The Trust would provide fi
cial grants up to Rs. 5,000 and
upto Rs. 40,000 at a very low int
rate. ·Entrepreneurs will als
provided assistance with obta
other loans from banks. Onc
project is taken up,
entrepreneurs would be introd
to successful businessmen
regular guidance. The Trust w
also provide necessary back-up
port – marketing and training

JNU Bio-
Admission

The All-India Comb
Entrance Examination (CE

ission to M.Sc./M.Tech Bio- nology and M.Sc. (Agricultural technology) at the Jawaharlal ru University and eight other icipating universities scheduled 19 May, 1991 has been shifted to day, 2 June, 1991. This has been e in view of the general elections he country.

As announced earlier, the rance Examination will be held 7 centres all over the country at medabad, Bangalore, Baroda, ubaneshwar, Bombay, Calcutta, andigarh, Cochin, Dehradun, lhi, Gauhati, Hyderabad, Indore, pur, Lucknow, Madras, Madurai, tna, Pune, Ranchi, Shillong, mmu, Vijayawada, Varanasi, a, Pant Nagar (UP) and Coim- tore.

Besides JNU, the other par- ipating universities are: Banaras indu University (BHU), Goa iversity, GB Pant University of griculture and Technology, M.S. niversity of Baroda, Madurai amaraj University, Poona Univer- y, Jadavpur University and Tamil- adu Agricultural University, oimbatore.

Three more Universities, Devi hilya Vishwavidayalaya, Indore, uru Nanak Dev University, Amrit- r and Anna University, Madras ave also joined the list of 9 par- cipating universities from this year r combined entrance examina- on. Further details are available ith the Coordinators of Bio-tech- ology programme of these univer- ities. With this, the total number of uch universities has risen to 12.

M.A. Women's Studies Course

The M.A. Degree course in Women's Studies offered by the Department of Women's Studies of he Alagappa University has been recognised by the Government of Tamil Nadu on par with other relevant postgraduate courses for the purpose of scholarships, employment and higher studies. The Public Service Commission of Tamil Nadu has also offered to accept the postgraduate degree in Women's Studies of the University as an eligibility for appointment to posts in public service for which a postgraduate degree is the required qualification.

The course was started in 1988-89 with the major objective of empowering women to compete with their male counterparts in the employment market, higher education, scholarships and other areas.

The Department of Women's Studies also carries out research studies under sponsorship of the Ministry of Human Resource Development and the Department of Science and Technology to bring women into the mainstream of development and national life.

National Youth Award Scheme

To provide recognition to young persons and voluntary organisations for their contributions in the field of youth work, the Department of Youth Affairs and Sports of the Govt. of India has introduced the National Youth Award Scheme.

The objectives of the scheme are (i) to provide young persons between the ages of 15 and 35 a challenge to achieve excellence in the field of national or social service; (ii) to encourage young people to develop a sense of responsibility to their community and thus to improve their own potential as good citizens; (iii) to give recognition to the outstanding work done by young persons for national development and/or social service; and (iv) to give recognition to the outstanding work done by voluntary youth organisations for national development and/or social service.

The activities considered for conferring the award include social work in rural areas and urban slums, promotion of national integration, adventure, cultural and recreational activities, formal and adult education programmes, work for improvement of conditions of SC/ST and tribal areas, work connected with popularisation of nationally accepted values, scouting and guiding, and any other work considered important.

The proforma for recommending the individual or voluntary agency for the National Youth Award and the other details pertaining thereto can be obtained from the Department of Youth Affairs and Sports, Ministry of Human Resource Development, Shastri Bhavan, New Delhi.

Indo-Dutch Collaborative Project in Biomedical Engg.

An Indo-Dutch collaborative research project entitled Development of foot model and pressure monitoring system for better understanding and management of tarsal disintegration and plantar ulcers in neuropathic feet of leprosy patients with Prof. K.M. Patil of biomedical Engineering Division, Applied Mechanics Department, IIT, Madras as Principal Investigator, has been sanctioned by the Department of Science & Technology, New Delhi. The project is for collaborative research between Biomedical Engineering Division, and Central Leprosy Teaching and Research Institute, Chengalpattu, Central Jalma Institute for Leprosy, Agra in India and Department of Anatomy, University of Leiden, Leiden and Department of Fundamentals of Mechanical Engineering, Eindhoven University of Technology, Eindhoven, The Netherlands. The duration of the project is three years with a total budget of Rs. 21.68 lakhs with the share of the IIT being Rs.9.01 lakhs sanctioned by DST.

BIT Entrance Exam Postponed

The Entrance Examination 1991 of the Birla Institute of Technology, Mesra, Ranchi scheduled to be held on 25-26 May, 1991 will now be held on 13-14 June, 1991 at all the Centres throughout the country. The change has been made in view of ensuing Lok Sabha elections.

The details about the revised schedule of the Entrance Examination may be obtained from Prof G.C. Singh, Coordinator, Entrance Exam, Birla Institute of Technology, Mesra : Ranchi.

News from Agril. Universities

Sorghum Improvement Project

Dr. N.G.P.Rao, Chairman, Agricultural Scientist Recruitment Board (ASRB) recently inaugurated the two day annual Group Meeting of All India Coordinated Sorghum Improvement Project at Haryana Agricultural University. Speaking on the occasion Dr. Rao said that All India Coordinated Sorghum Improvement Project since its inception in 1968 has strengthened the sorghum programme at national level with the result that the production and conservation technology of forage sorghum had been popularised in the country. He said that though remarkable success had been achieved in the improvement of both grain and forage sorghum, yet in view of the population growth there was need to remove the factors responsible for low yield of grain sorghum.

Dr.A.L. Chaudhry, Vice-Chancellor, HAU, who presided, said that the release of 11 hybrids and 11 varieties of sorghum during last two decades by the University Scientists, had resulted in a major breakthrough in the production and productivity of this crop. Some of the hybrids and varieties had shown good adaptability not only in India but abroad also. Dr. Chaudhry complimented the sorghum scientists, for evolving sorghum hybrids which yielded 6 to 7 tonnes of production per hectare. Sorghum being the most important food and fodder crop of dryland agriculture in India needed special attention of the researchers and planners. Erratic and insufficient rainfall during cropping season, non adoption of recommended production technology and susceptibility to some diseases were the major factors responsible for its low yield. The Vice-Chancellor said that the improvement of sorghum for forage
and feed for increased a
productivity was as important
improvement for grain for h
consumption, particularly wh
the one hand we had the larges
stock-population in the work
on the other hand our milk pr
tion continued to be extremely

In his keynote address
R.S.Paroda, Deputy Dire
General, Indian Council of Ag
tural Research(ICAR) expre
concern over reduction of
under sorghum production.
promoting sorghum productio
productivity in the country ther
need to have feedback on the
nologies employed. Seed t
ment, seed demonstration, fert
demonstrations, integrated-
management, said Dr.Paroda,
some of the major aspects w
needed to be taken up on pri
basis. He lauded the work do
HAU Scientists in the field of
ghum production.

The Meet was organised in
laboration with I.C.A.R. at w
130 experts from all over India
ticipated.

News from UGC

Three AVRCs Upgraded

The University Grants Commission has decided to upgrade three Audio-Visual Research Centres (AVRCs) functioning at St. Xavier's College, Calcutta, Madurai Kamaraj University (Mudurai), and University of Jodhpur (Jodhpur) as Educational Media Research Centres (EMRCs) on the basis of their progress of production and quality of Programmes. The Commission will provide necessary additional software and hardware inputs to them for their efficient operation.

Established in 1985-86, the
existing centres have been pro
ing on an average three program
in a month for telecast by the D
darshan in the UGC Country
Classroom programme. They
so far produced about 300 prog
mes out of a total of 2000 prog
mes produced by all the 14 AV
and EMRCs during 1984-90.
upgradation these new EMRC
be in position to produce four
programmes a month.

The UGC Coutrywide Classom programme began its telecast August 15, 1984. Its duration has ce been increased from one hour two hours every day, six days a ek. Through this programme of iversity level education for underaduate students the Commission effectively utilising the fast exnding communication infrastrucres in the country. The ommission has endeavoured to esent, through these programes, the latest advances in all fields education by adopting a multisciplinary approach. An interestig component of these rogrammes is their 'omnipresence' hich means taking the viewers to here the action is' viz. a workshop, ospital, rural set up or a conference tc. The programmes are in English t present and are being telecast hrough INSAT - ID and the Doorarshan network. The Commission as provided colour TV sets to a arge number of colleges in order to nsure wider viewing of the rogrammes by the teachers and tudents.

Research Grant for Varsity Teachers

With a view to bring out high-quality publications, the University Grants Commission (UGC) will provide financial support under its revised scheme of unassigned grants to the universities for publication of learned research work and doctoral theses of researchers and teachers. A learned research work to be assisted for publication should be one that breaks new ground and is useful as reference material for post-graduate students. The thesis accepted for a doctoral degree might be considered for assistance for publication only within a period of ten years of its submission. Proposals for publication of lectures delivered at the university under the UGC programme of national literacy may also be considered for assistance under the scheme. Also, minor research projects will be provided support by the respective university committee. The support in science subjects will be up to Rs 25,000 and in the humanities (including social sciences) up to Rs 15,000 spread over two to three years. Besides, several other benefits will be provided to teachers, scientific/technical officers, administrative staff and directors of physical education to participate in national and international programmes.

News from Abroad

Reforms Proposed in Japanese Higher Education

The Japanese government may reform or scrap the "general education" classes university students are expected to attend, following a report from a ministry of education advisory panel.

The panel has suggested that the distinction between general education classes. which are mostly taught in the first two years of four-year degree courses, and specialised education classes, mainly taught in the third and fourth years, should be abolished.

General education classes, which include subjects in the social sciences, health, foreign languages and physical education, have been unpopular with both university administrators and students. Critics argue that they are a unnecessary extension of the high school curriculum.

General education classes were introduced after the war as a means of providing undergraduates with the sort of broad-based higher education that reformers thought would provide a better all-round preparation for life and work. Their compulsory provision was also intended to force university faculties to focus on wider goals and to establish broader faculty organisational units along the lines of arts faculties in American universities.

The postwar reforms decreed that at least 36 of the 124 credits required for graduation would have to be provided by general education subjects.

But many students have failed to appreciate the relevance of classes in the liberal arts, foreign languages and physical education to their degree courses. Lectures are frequently skipped and students prefer to spend their time on leisure activities and part-time jobs.

The mandatory inclusion of general education classes in degree courses, along with the reluctance of universities to fail students, has been blamed for the poor attendance at university lectures and the development of Japanese higher education as a "four-year vacation" between school and work.

It was to try and improve standards in higher education that the minister of education asked the University Council to consider possible changes to the general education requirements. Some reformers argue for the introduction of greater flexibility in the number of general education credits required for graduation, while others want to see the total abolition of the general education regulations.

But some educationists believe that general education classes have a positive contribution to make to Japanese higher education. The broad-based education provided by Japanese universities, they say, provides employers with recruits who are easily trained for a wide range of posts.

And general education classes can be made more appealing to students, it is argued. In some engineering, science and medical faculties, for example, their integration into coherent course-plans has made them a meaningful part of undergraduate courses.

Because students tend to work harder in their seniors years, than in their freshman and sophomore years, the spread of general education subjects across all four years of university courses provides more acceptable attendance figures.

Govt.-University-Industry Consultation

Six members of the French government attended the first national conference held with employers on higher education and the job market at Sorbonne.

The heads of the confederation of French employers and of all the main employment sectors' federations spent three days in talks and working parties with university presidents and faculty.

The conference was not intended to reach decisions on action but rather to establish the fact that both sides should consult each other on the content of higher education.

Aware of the antipathy to this idea in academic circles, Education Minister Lionel Jospin was careful to emphasise the university tradition of "general culture and humanism" before asking whether university courses are adapted to "the needs of the present and the demands of the future"

In a special report to the conference, Francois Pottier of the ministry's study centre on qualifications, warned that setting up tailor-made courses for a particular job category would only lead to obsolescence. "The professionalisation of courses cannot be decreed, it grows out of dynamic interaction between the university and its economic and social environment", he said.

According to Mr. Pottier, the best example of this was joint research work carried out by university and industry which had a "knock-on" effect on "the evolution of basic and applied research, third degree courses and eventually the orientation of Masters courses".

Putting the question rather differently, the head of the employer confederation, Francois Perigot asked the university presidents whether "we have to use your products, or you seek to fulfil our needs?" The answer, he said, was a "single education strategy for schools and companies".

Many of the employers present at the Sorbonne wanted to see more money going into professional training. But while several of the ministers who addressed the conference spoke of the need to increase adult education, the main commitment was clearly to mainstream university courses, set to take in ever larger numbers.

Finance minister Pierre Beregovoy pointed to France's 9.2 per cent unemployment rate and the paradoxical shortage of qualified people in some sectors. "There is an urgent need to develop short higher education courses", he noted.

The number of places available on two year professional courses is to be doubled, according to M.Jospin, who added that the finishing touches are now being put to the plan for new, four year professional degree courses.

Closing the conference, Prime Minister Michel Rocard caused a stir by announcing that the government wanted to see 80 per cent of each age group "go beyond the baccalaureat" . Until now, government policy has been to bring 80 per cent of school students up to baccalaureat level, an aim considered unrealistic by critics.

But with student numbers bound to soar, even if not to that extent, there is a growing concern among young people about higher education's ability to prepare them for a good job. The Sorbonne encounter and the Ministry's plans for more professional degrees come in answer to that concern.

Bush Unveils Educat
Pl

The US President George B
recently unveiled a plan to impr
education in the nation that focu
almost exclusively on primary
secondary schools. The strat
calls for restructuring the pu
school system by the year 2
meeting the six national goals
lined by the president and govern
at a national conference more th
18 months ago.

Bush said that by the year 2
he wants better presch
programs; all students to meet ba
standards in core subjec
American students to rank first
the world in math and scien
achievement; and a high sch
graduation rate of 90 percent.

He called for assistance in me
ing these goals from paren
educators, communities, and bu
ness leaders. The proposal wou
establish national examination
provide parental choice of schoo
reward outstanding teachers a
students; provide alternati
methods for obtaining teacher c
tification; and create teams
educators and business leaders
help restructure schools.

The plan refers indirectly to
sistance by colleges and universit
in improving education and teach
training programs. In additio
Bush proposed providing schol
ships to academically successf
low-income students to help the
pay for postsecondary education.

Comparative, Internation
and Development Educ
tion Cent

The Ontario Institute for Stud
in Education (OISE) has esta
lished a new Comparative, Intern
tional and Development Educati
Centre, linking and facilitating t
work of faculty and graduate st
dents in several departments w
focus their work in comparative,
ternational and developme

ucation. One of the centre's roles o coordinate a cross-departmen- graduate studies focus in com- rative, international and velopment education, involving culty from the departments of dult Education, Sociology in lucation, and Higher Education. raduate students focussing their rk in this area enrol formally in e of those three departments and, rough a very flexible course enrol- ent arrangement, build a program om courses available within the ree departments. Students also ave access to courses in OISE's ther six departments and in levant departments of the Univer- ty of Toronto. This permits highly dividualized programs of study, ased upon the student's experience nd academic/professional inter- sts.

For thesis supervision students an call on a much wider group of aculty who include comparative nd international education as a sig- ificant part of their research and levelopment work. Of OISE's 145 egular full-time faculty, ap- roximately 40% make internation- l and comparative work an mportant component of their cholarly activity. Collectively, their xperience covers all major world egions. Students can pursue programs leading to the M.Ed., M.A., Ed.D., and Ph.D. degrees. For financial support graduate assistantships, and OISE scholarships, which do not have a work requirement, are available on a competitive basis. Well over 100 of OISE's current graduate students are focussing their work in comparative, international and development education, and many others are including study in this area as a minor concentration in their degree programs.

The Ontario Institute for Studies in Education is a unique academic institution. It is a combination of a graduate school of education and an educational research and development institute. In addition to its main teaching/research facility in central Toronto it has a network of "field centres" throughout Ontario whose task is to directly link academic research and graduate study to educational practice and policy. OISE is one of the four largest graduate students institutions in education in North America, with 145 full time faculty, and approximately 700 full-time and 1700 part-time students enrolled in any given academic year. OISE is also one of the largest research and development institutions in education in the world. In addition, there are currently more than 150 international students working towards degrees in the Institute, from all regions of the world.

This diverse array of faculty, staff and students, plus its location in Toronto, one of the most cosmopolitan and multicultural cities in the world, help to make OISE a large and vibrant international community of scholars and practitioners in education. This new centre has been established to facilitate and even further strengthen the formal study of, and research and development in, comparative international and development education within OISE.

For further information regarding the work of the centre, and opportunities for graduate studies in OSIE, contact: Joe Farrell, Comparative, International and Development Education Centre, Ontario Institute for Studies in Education, 252 Bloor Street West, Toronto, Ontario, Canada M5S 1V6.

TWAS/CAS Fellowships for Research and Training in Chinese Institutes

The Third World Academy Sciences (TWAS) and the Chinese Academy Sciences (CAS)have decided to award grants to research scientists of proven ability, working and living in developing countries other than China, for pursuing research, learning new techniquees, or undertaking some other form of training by working with colleagues in Universities and Research Laboratories in China. The programme will promote the transfer of advanced scientific research results from these institutions to the rest of the Third World through the establishment of institutional links and long term cooperation.

Under this programmeds, TWAS will provide international travel to the host country and back through the generous funds provided by the Direzione Generale per la Cooperazione allo Sviluppo of the Italian Ministry of Foreign Affairs, while local living expenses in China will be provided by the Chinese Academy of Sciences (CAS) through a generous grant made by the Government of China. A list of scientific Institutions and their research activities is available from the TWAS Secretariat, Trieste, Italy, and the TWAS Beijing Office in China.

Fellowships will be awarded in various branches of scientific fields in which there are recognized expertise in the host institutions in China. The duration of each visit will vary from one month to one year, depending on the conditions set out by the institution to be visited.

Applicants should be nationals of developing countries and of proven ability, normally with some research experience, holding positions in universities or research institutes in developing countries other than China.

Applications should be made on the TWAS/CAS form and duplicate copies sent to both the Office of the Executive Secretary in Trieste and the TWAS Beijing Office at the Chinese Academy of Sciences. Applications will be reviewed and evaluated by the TWAS Beijing Office in collaboration with the host institutions and the TWAS Secretariat. Special consideration will be given to visits which can be expected to forge future links of collaboration between institutions in developing countries and the host institutes in China.

Further information can be had from the Third World Academy of Sciences (TWAS), C/o International Centre for Theoretical, Physics (ICTP), P.O. Box 586, 34136 Trieste, Italy, and /or from TWAS Beijing Office, C/o Chinese Academy of Sciences, 52 Sanlihe Road, Beijing 100 864, China, P.R.

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secreta Officer to be Conta
July 21-26, 1991	Seventh International Meeting of University Administrators	Themes to be discussed are: (i) Standards of Professionalism in University Administration; (ii) International Cooperation; and (iii) The Entrepreneurial University	Conference of Registrars and Secretaries and Conference of University Administrators of the United Kingdom.	Dr. F.C. Ver Chairman, Orga Committee, Cong Bureau, Universit Twent P.O. Box 2 7500 AE Enschede The Netherlands
August 19-30 1991	International Course on Planning and Design of Pumping Works	To provide fundamental knowledge on pumping systems and comprehensive approach to planning and design of pumping works	Asian Institute of Technology, Thiland	Mr. Wiboon Boonyatharokul, Program Specialist Continuing Educati Center, Asian Instit of Technology, GPO Box 2754 Bangkok-10501 Thiland
Sept. 16-20, 1991	Regional Symposium on Educational Testing	Theme : Reforms and enhancements in educational testing system, test contents and formats in a country (or region)	The National Education Examination Authority (NEEA), People's Republic of China	Mr. Yang, Xuewai, Director, National Education Examina Authority (NEEA), Education Commiss 30 Yu Quan Road, Beijing 100039, The People's Republic of China
Sept. 17-18, 1991	Fourth Annual Conference of the Asian Association of Open Universities	To explore the need, desirability,practicability and relevance of face to face components in Distance Education	The Open University of Sri Lanka, Colombo, Sri Lanka	Ms. C Sempapperum Organising Secretar AAOU Conference, Open University Box 21, Nugegoda, Sri Lanka
December 14-16, 1991	International Conference on Man & Environment	To discuss issues concerning the future of man and preservation of the unique planet earth	Motilal Nehru Regional Engineering College, Allahabad	Dr. R.K. Srivastava, Organising Secretary ICOMEN - 91, Department of Civil neering, Motilal Neh Regional Engineerin College, Allahabad - 2110

Quest for Academic Excellence

S. P. Ruhela*

Kapur, J.N. Towards Excellence in Higher Education. New Delhi, Mathematical Sciences Trust Society, 1991. Pp viii + 272,Rs. 150.

The book under review is by an eminent scholar – a mathematician, educational administrator and educationist. He served as Vice-Chancellor of Meerut University and taught in a number of universities in India, Canada and USA. The book is a collection of thirty-six articles written by him in his administrative years. They are divided into four sections: (a) The Educational System, (b) Higher Education in India, (c) The Teaching Process, and (d) Teaching and Research.

The highlights of the author's most favourite ideas are: education should be from womb to tomb; educationalization of vocations should be done, which does not mean vocational education; part-time and non-formal education should be promoted in India vigorously; education should be compulsory for all people, not just for children; moral education should be imparted through examples, not precepts; everybody should become a student as well as a teacher of someone; students must agitate for receiving better quality of teaching and behaviour from their teachers; innovative approaches should be adopted in all aspects of higher education; and interference of politicians must be resisted byuniversity and college authorities as well as by students and teachers.

The author tries to develop a utopian portrait of a university. He lays down his criteria for good teacher, good human relations in college, good examination, good academic performance etc. He is very sore about the serious malpractices in university examinations – mass copying, anomie in evaluation of doctoral theses, admission tests to B.Ed., MBBS, and other courses, pressures on university authorities from politicians and their own relatives etc., to favour certain candidates etc. He testifies to the fact of the existence of nepotism and political interference and blackmailing by the vested interests in Indian universities.

It is in this context that the quest for academic excellence has to be pursued. The author protrays the distinctive features of American universities enlightening us vividly how they appoint and promote teachers, evaluate their candidates in postgraduate and doctoral courses, and how they do not allow political and other corrupting influences to infiltrate their academic culture. The author's autobiograhical materials as to how he could face the various kinds of pressures during his Vice-Chancellorship are not only informative but quite exciting and inspiring. The author gives one hundred practical thoughts or suggestions about college teaching. They are bound to be of great use to all teachers of universities and colleges – young as well as old ones.

It is, on the whole, a remarkably candid, straightforward and scholarly book on the problems of higher education in India. It motivates the readers to introspect and ponder as to how all the normlessness and perversities in our institutions of higher learning can be eradicated and academic excellence can be achieved. Everyone connected with higher education must strive to improve things, as far as he can, with courage, faith and commitment. It is no use blaming others for one's weaknesses and faults. Improving universities and colleges is not a single person's responsibility; it is, afterall, a cooperative or collective effort.

The book will be of great interest to teachers, educational administrators and all those who wish to see that our universities and colleges achieve excellence in near future. The book is written in simple descriptive language without using theoretical concepts. Although analysis is given forcefully, yet numerous practical suggestions invariably have also been given. This has made the book all the more useful. The Academic Staff Colleges particularly will find it to be a very helpful book for their participants of orientation course.

**Professor, Institute of Advanced Study in Education, Jamia Millia Islamia, New Delhi - 110 025.*

Seventh SERC School in Theoretical High Energy Physic

PHYSICAL RESEARCH LABORATORY, AHMEDABAD

23 DECEMBER 1991 - 18 JANUARY 1992

The Department of Science and Technology through its Science and Engineering Research Council (SERC) initiated a scheme for organizing Summer/Winter Schools in five year cycles for the benefit of Ph.D. students young post-doctorals in the area of Theoretical High Energy Physics. The Seventh School in this series, which also the second one in the second cycle, will be held at the Physical Research Laboratory, Ahmedabad, from December, 1991 to 18 January, 1992.

The first week of the School will be devoted to introductory courses in the areas of Quantum Field Theory Particle Physics and is intended only for those with insufficient backgrounds in these areas. Other participan can attend the School from the second week onwards. During this period, the following courses will be offere

Long Courses	Short Courses
Standard Model	**Neutrino Physics**
Conformal Field Theory	**Anyons**
Cosmology and Particle Physics	

The selection of candidates will be made on an all India basis. Preference will be given to fresh Ph.D.'s and researc scholars working towards a Ph.D. Degree in Theoretical High Energy Physics.

Applications should be sent in the following format:

1. Name
2. Address for Correspondence
3. Age
4. If working for a Ph.D. :

(a) Academic record (b) Institution (c) Number of years completed in Ph.D. program (d) Area of researc (e) List of publications (f) Reason for interest in the School (g) whether interested in attending first wee courses.

Please arrange to send two letters of recommendation (including one from your guide) directly. The letters should specifically state your background in High Energy Physics.

If you already have a Ph.D.

(a) academic record (b) one page synopsis of thesis (c) current research interests (d) list of publications (e reason for interest in the School.

Financial support for train travel, board and lodging will be provided to 40 participants.

Address for Correspondence

Prof. J.C. Parikh
Director, SERC THEP VII
Physical Research Laboratory,
Navrangpura, Ahmedabad 380 009

Last Date for receiving applications and recommendation letters July 31, 1991

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Research Scholars and students of education are welcome to use these resources. The Library is open from 0 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which quisition must be made through your Librarian.

RESEARCH IN PROGRESS

A list of Research Scholars registered for Doctoral Degrees in Indian Universities

SOCIAL SCIENCES

ychology

1. Chandra, Deepika. **Stress: Its impact on susceplibility to nestrual disorder.** BHU. Dr A Mukhopadhya, Department of ychology, Banaras Hindu University, Varanasi.

2. Chaubey, Akhilesh Chandra. **Problems of adjustment among me changing tribal groups.** BHU. Dr R C Mishra, Department Psychology, Banaras Hindu University, Varanasi.

3. Dhar, Chandra. **Everyday memory in dissociative izophrenics and normals.** BHU. Dr C B Dwivedi, Department Psychology, Banaras Hindu University, Varanasi.

4. Gupta, Sarita. **A comparative study of certain personality pects of career oriented and non-career oriented adolescent girls.** IU. Dr R Verma, Department of Psychology, Banaras Hindu iversity, Varanasi.

5. Jain, Ruchi. **Hemisphericity and performance.** BHU. Prof S Gupta, Department of Psychology, Banaras Hindu University, ranasi.

6. Khatri, Ravindra Nath. **Job involvement and performance in lation to person-environment fit.** BHU. Dr A K Srivastava, epartment of Psychology, Banaras Hindu University, Varanasi.

7. Mishra, Mridula. **Retention without awareness in amnesics d normals.** BHU. Dr C B Dwivedi, Department of Psychology, anaras Hindu University, Varanasi.

8 Rukhsana Bano. **Enhancing adjustment among women rough behaviour modification technique.** BHU. Dr S S Kaushik, Department of Psychology, Banaras Hindu University, Varanasi.

9. Singh, Amit Kumar. **A study of relationship between leadership style and employees' job behaviour.** BHU. Dr A K Srivastava, Department of Psychology, Banaras Hindu University, Varanasi.

10. Singh, Jamnotri. **A comparative study of occupational stress, coping style and mental health of Indian and Nepalese employees.** BHU. Dr A K Srivastava, Department of Psychology, Banaras Hindu University, Varanasi.

11. Srivastava, Savita. **Implicit memory in organic neurotic amnesics and normals.** BHU. Dr C B Dwivedi, Department of Psychology, Banaras Hindu University, Varanasi.

Sociology

1. Choubey, Shyam Narayan. **Sex discrimination within the family: A sociological study of a village community in Saran District of Bihar.** BHU. Dr (Mrs) S Jetley, Department of Sociology, Banaras Hindu University, Varanasi.

2. Guru, B P Mahesha Chandra. **Rural development communication management at micro level.** BHU. Dr B R Gupta, Department of Journalism and Mass Communication, Banaras Hindu University, Varanasi.

3. Mishra, Bhawana. **Girl child: A sociological study.** BHU. Dr (Mrs) S Jetley, Department of Sociology, Banaras Hindu University, Varanasi.

4. Mishra, Nalini. **Rural development and Panchayati raj.** BHU. Prof S Tripathi, Department of Sociology, Banaras Hindu University, Varanasi.

5. Nadir, Sayed Ali. **A sociological study of graduate unemployed youth in Varanasi.** BHU. Dr Mohd Salim, Department of Sociology, Banaras Hindu University, Varanasi.

6. Rastogi, Vinod Kumar. **Women worker in stone crushing industries: A sociological study of Karwandia District Rohtas, Bihar.** Dr (Mrs) S Jetley, Department of Sociology, Banaras Hindu University, Varanasi.

7. Shirin Naaz. **Sampradevaved ke samajik adhar: Varanasi ke dharmik samudayon per adharit adhyayan.** BHU. Dr Jai Kant Tiwary, Department of Sociology, Banaras Hindu University, Varanasi.

8. Singh, Rakesh Prasad. **Uttar Pradesh ke udhami: Unke samajik badalte mulyon ka samaj vaigyanik adhyayan.** BHU. Prof S Tripathi,Department of Sociology, Banaras Hindu University, Varanasi.

9. Srivastava, Punam. **Grameen samaj evam samanvit grameen vikas karyakram: Samaj vaigyanik adhyayan.** BHU. K D Dwivedi, Department of Sociology, Banaras Hindu University, Varanasi.

Political Science

1. Bandukwala, Noorussahar. **Samyavadi vichardhara mein Perestroika ka yogdan: Ek vivechan.** Devi Ahilya. Dr L T Sakalle, Assoc Prof, Department of Political Science, Islamia Karimia College, Indore.

2. Deyma, Abhaya. **Sri Lanka kee rajniti aur Bharat.** Vikram. Dr (Smt) Sandhya Billore, Prof, Department of Political Science, Government College, Agar.

3. Dubey, Ram Nath. **C B Macpherson and democratic theory.** BHU. Prof Nalini Pant, Department of Political Science, Banaras Hindu University, Varanasi.

4. Garg, Asha. **Bhartiya rashtriya andolan mein ugravad kee bhoomika.** Vikram. Dr H S Sabharwal, Asstt Prof, Department of Political Science, Madhav College, Ujjain.

5. Gaur, Atul Anand. **Nature of religious freedom in Indian Constitution.** BHU. Dr H N Tripathi, Department of Political Science, Banaras Hindu University, Varanasi.

6. Jacob, Leena. **A study of disarmament in international relations since 1945** HS Gour. Dr S S Sodhi.

7. Mahendra Singh. **Bharat kee videsh niti asanglagnta ke paripekshya mein, 1967 se vartman samay tak.** BHU. Dr T N Pant, Department of Political Science, Banaras Hindu Udniversity, Varanasi.

8. Mehrotra, Surabhi. **Role of regional political parties in Lok Sabha, 1967-89.** BHU. Dr (Mrs) Manju Kumar. Department of Political Science, Banaras Hindu University, Varanasi.

9. Mehta, Ashutosh. **Pashchim Asia mein Ameriki hit: Ek vishleshnatmak adhyayan.** Vikram. Dr Chain Singh Panwar, Reader, Department of Political Science, Vikram University, Ujjain.

10. Pandy, Ashok Kumar. **Pt. Jawaharlal Nehru aur lok tantra.**BHU. Dr C Padia, Department of Political Science, Banaras Hindu University, Varanasi.

11. Sajid Husain. **Kashmir samasya: Ek adhyayan.** Vikram. Dr (Smt) Nisha Vashistha, Lecturer, School of Studies in Political Science, Vikram University, Ujjain.

12. Saraf, Manju. **Congress (I) tatha Rajiv Gandhi: Ek vyaktivrit adhyayan, 1984 se aaj tak.** Vikram. Dr Shiv Dayal Gautam, Prof and Head, Department of Political Science, Government College, Barwah

13. Singh, Bhavana. **Crisis of values in political theory.** BH Dr C Padia, Department of Political Science, Banaras Hindu Univer sity, Varanasi.

14. Singh, Niraj Kumar. **India's regional policy: A study strategic and security dimensions, 1971-84.** BHU. Dr A S Department of Political Science, Banaras Hindu Univers Varanasi.

Economics

1. Gopakumaran Nair, G. **Micro level planning of health vices in Kerala.** Kerala. Dr K N S Nair, Chief, Computer Divis State Planning Board, Rajalakshmy Building, Thiruvananthapura

2. Nagendra Singh. **Input-output relationship in agricultur** BHU. Dr (Miss) K L Kedia, Department of Economics, Banar Hindu University, Varanasi.

3. Niaki, Sayed Jalil Hossini Ajdad. **Sugar industry in Ind** BHU. Prof G S Kushawaha, Department of Economics, Banar Hindu University, Varanasi.

4. Ojha, Sanjay Kumar. **India's aid to its neighbourin countries.** BHU. Prof G D Mishra, Department of Economic Banaras Hindu University, Varanasi.

5. Patel, Rukmani. **Jabalpur Sambhag mein adivasi kalya yojnayon ka arthik adhyayan.** HS Gour. Dr T N Singh, Pro Department of Economics, R D Government Postgraduate College Mandla.

6. Sadhana Kaur. **Indo-Japan economic relations since inde pendence.** BHU. Prof C D Mishra, Department of Economics Banaras Hindu University, Varanasi.

7. Sahoo, Vijay Kumar. **Damoh Jile ke arthik vikas mein lagh evam kuteer udyogon kee bhumika.** HS Gour. Dr Sudha Singh Sisodia.

8. Srivastav, Sunil Kumar. **Sagar Sambhag mein dakiya ke arthik samajik sthiti: Ek vishleshan.** HS Gour. Dr K C Jain.

9. Singh, Anil Kumar. **Income, saving and investment behaviour of farmers in Gaazipur District.** BHU. Dr R P L Jain Department of Economics, Banaras Hindu University, Varanasi.

10. Singh, Ashok Kumar. **Sales taxation in Bihar.** BHU. Dr Rajendra Rai, Department of Economics, Banaras Hindu University, Varanasi.

11. Singh, Seema. **Sustainable agriculture: A critical study of H Y V technology in India.** BHU. Dr (Miss) K L Kedia, Department of Economics, Banaras Hindu University, Varanasi.

12. Singh, Virendra Kumar. **Marketing of agricultural produce in Uttar Pradesh.** BHU. Dr Rajendra Rai, Reader, Department of Economics, Banaras Hindu University, Varanasi.

Law

1. Athwal, Baljit Kaur. **International terrorism: A study of international legal control mechanics.** Panjab. Prof. Veer Singh Department of Laws, Panjab University, Chandigarh.

2. Bharaj, Manider Kaur. **Crime and the woman: A socio-legal critique of patriarchy with special reference to the staye of Punjab** Panjab. Mr Justice Kuldip Singh, Supreme Court of India, New Delhi and Prof Virendra Kumar.

3. Mahajan, Mukesh Kumar. **Tax evasion and the generation of black money: A study of legal control mechanism.** Panjab. Prof

Krishan, Department of Laws, Panjab University, Chandigarh.

4. Sidhu, Harinder Singh. **Fundamental rights and constitution- urisprudence developed by the apax court with special reference the contributions of Mr. Justice P N Bhagwati.** Prof Balram K ipta, Department of Law, Panjab University, Chandigarh.

5. Singh, Vinod Kumar. **Vidhi ke antargat mahilayon kee najik suraksha.** BHU. Dr Surendra Nath, Department of Law, naras Hindu University, Varanasi.

ucation

1. Mishra, Kiran. **Niraupacharik shiksha mein karyarat shik- ikayon kee shaikashik pristha bhumi, vyaktitva, mulya evam mayojan ka adhyayan.** BHU. Dr H K Singh, Department of onomics, Banaras Hindu University, Varanasi.

2. Singh, Narendra Kumar. **Samajik arthik drishti se vanchit am avanchit kishoron ka manosamajik adhyayan.** BHU. Dr T ngh, Department of Education, Banaras Hindu University, iranasi.

3. Verma, Seema. **A critical study of coaching institutions.** IU. Dr Asha Pandey, Department of Education, Banaras Hindu iiversity, Varanasi.

ommerce

1. Agarwal, Sunil Kumar. **Performance appraisal of petrolium terprises in India with special reerence to O N G C.** BHU. Dr K Pandey, Department of Commerce, Banaras Hindu University, aranasi.

2. Jai Prakash. **Chhatvin evam satvin Panchvarshiya yojnayon antragat Uttar Pradesh ka audyogik vikas.** Dr J P Singh, Department of Commerce, Banaras Hindu University, Varanasi.

3. Jindal, Vinod Kumar. **Partition of Hindu undivided family nder Direct Tax Law.** BHU. Dr Vinay Kumar, Department of ommerce, Banaras Hindu University, Varanasi.

4. Khan, Suhail Ahmad. **Stock Exchanges in India with special ference to the working of Delhi Stock Exchange.** BHU. Dr M N Ansari, Department of Commerce, Banaras Hindu University, aranasi.

5. Yadav, Krishna Kant. **Marketing of handicrafts in U P: A case udy.** BHU. Dr S R Rai, Department of Commerce, Banaras Hindu niversity, Varanasi.

ome Science

1. Sinha, Amrita. **A study of girl child.** BHU. Dr (Smt) P rivastava, Department of Home Science, Banaras Hindu University, aranasi.

lanagement

1. Kishore Kumar, B. **Management of support system for in- ustrial promotion in Kerala.** Kerala. Dr R Gangadharan Nair, eader, Institute of Correspondance Courses, University of Kerala, ariavattom.

2. Paramasivan, S. **Role effectiveness of Workmen Directors in anks.** Kerala. Dr R Gangadharan Nair, Reader, Institute of Cor- espondance Courses, University of Kerala, Kariavattom.

HUMANITIES

hilosophy

1. Dubey, Aparana. **Bhartiya darshana mein atma kee avad- iarana.** BHU. Dr S Vijaya Kumar, Department of Philosophy and Religion, Banaras Hindu University, Varanasi.

2. Govind Narain. **Kunde kunda, Nagarjuna tatha Sankara ke darshana ka ek tulnatmak vivechana.** BHU. Dr M R Mehta, Department of Philosophy and Regilion, Banaras Hindu University, Varanasi.

3. Gupta, Ranjana Devi. **Bhakti kee Ramanujiya evam Madhav p. ramparyon ka sameekshatmaka adhyayan.** BHu. Prof K N Mishra, Department of Philosophy and Religion, Banaras Hindu University, Varanasi.

4. Mishra, Deo Prasad. **Samkaleen pashchatya darshana mein man ka swarupa.** BHU. Dr M R Mehta, Department of Philosophy and Religion, Banaras Hindu University, Varanasi.

5. Saraogi, Rajeev Kumar. **Ekatma manava darshana: Ek sameekshatmak adhyayan.** BHU. Prof K N Mishra, Department of Philosophy and Religion, Banaras Hindu University, Varanasi.

6. Singh, Brahm Ram. **Bhartiya darshan ka chintan mein aceradarshan: Ek tulnatmak adhyayan.** BHU. Dr M R Mehta, Department of Philosophy and Religion, Banaras Hindu University, Varanasi.

7. Singh, Manoj Kumar. **Yogadarsana evam Jains Yoga" Ek tulnatamak adhyayan.** BHU. Dr M R Mehta, Department of Philosophy and Religion, Banaras Hindu University, Varanasi.

8. Singh, Pavan Kumar. **Kashmiri Saiva shastra aur advait vedanta mein niti aur dharma ka tulnatmak adhyayan.** BHU. Prof Kamalakar Mishra, Department of Philosophy and Religion, Banaras Hindu University, Varanasi.

9. Srivastava, Kavita. **Ballabha parampara kee bhakti kee avadharna ka sameekshatmak adhyayan.** BHU. Prof K N Mishra, Department of Philosophy and Religion, Banaras Hindu University, Varanasi.

10. Tripathi Lakshmi Devi. **Acharya Narendra Dev ka samaj darshan.** BHU. Dr S Vijaya Kumar, Department of Philosophy and Religion, Banaras Hindu University, Varanasi.

Religion

1. Jalendiran, M. **A critical study of Panca Namaskara Mahamantra.** Madras. Dr M D Vasantharaj, Prof and Head, Department of Jainology, University of Madras, Madras.

Fine Arts

Sculpture

1. Dubey, Sanjay Ballabh. **Purvi Bharat kee Shaiv evam shakta pratimayen.** BHU. Prof R Das Gupta, Department of History of Art, Banaras Hindu University, Varanasi.

2. Srivastava, Archana. **Kashi ka dhatu shilp.** BHU. Dr Kamal Giri, Department of History of Art, Banaras Hindu University, Varanasi.

Drawing & Painting

1. Aryan, Jaya Kumar. **Madhyakalin Bharatiya murti kala mein vyaktik sringar.** BHU. Dr Kamal Giri, Department of History of Art, Banaras Hindu University, Varanasi.

2. Mishra, Abha. **Mothera ke Surva Mandir kee murtiyon mein sanskritik jeevan.** BHU. Dr M N P Tiwari, Department of History of Art, Banaras Hindu University, Varanasi.

3. Rakesh Singh. **Bharatiya mrithika kala mein Dev murtiyan.** BHU. Dr Kamal Giri, Deparmtent of History of Art, Banaras Hindu University, Varanasi.

1. Singh, Deepti. **A critical study of the impact of colonial rule on performing arts with special reference to music, 1875- 1947.** BHU. Dr Ritwik Sanyal, Department of Vocal Music, Banaras Hindu University, Varanasi.

2. Singh, Lawanya Kirti. **Pranav-parivar ke sadsyon ka sangeetik yogdan.** BHU. Dr P K Dixit, Department of Vocal Music, Banaras Hindu University, Varanasi.

3. Wad, Suvarna. **Bhartiya sangeet vaigyanik paksh.** Devi Ahilya. Prof (Miss) Suman Dandekar, 30, Jati Colony, Indore.

Language & Literature

English

1. Bhatnagar, Monika. **A comparative study of fairy tales.** HP. Dr B S Pathania, Department of English, Himachal Pradesh University, Shimla.

2. Bhattacharya, Manjula. **Tagore's Gitanjali and Blake's Lyrics: A comparative study.** BHU. Dr Krishna Banerjee, Department of English, Banaras Hindu University, Varanasi.

3. Felix, C K. **Humour in the fictional writings of R K Narayan, Raja Rao and G V Desani.** Kerala. Dr K Radha, Prof, Institute of English,University of Kerala, Thiruvananthapuram.

4. Priti. **The theme of suffering and spiritual triumph in the novels of Kamala Markandaya.** HP. Dr (Mrs) Usha Pathania, Department of English, Himachal Pradesh University, Shimla.

5. Rajpal, Deepika. **The immigration and expatriation motif: A select study of six contemporary novels.** HP. Dr Shyam Asnani, Department of English, Himachal Pradesh University, Varanasi.

6. Ruttala, Durga Rani. **A study of women character in the novels of Charles Dickens.** BHU. Dr A Sircar, Department of English, Banaras Hindu University, Varanasi.

7. Srivastava, Poonam. **Treatment of evil in Victorian fiction.** BHU. Prof M K Choudhary, Department of English, Banaras Hindu University, Varanasi.

8. Varma, Charu. **Faminism in third world contemporary fiction: A comparative study of selected works of Gabrial Garcia Marquez, Ngugi Wa Thiongo and Bhisham Sahni.** HP. Dr Pankaj K Singh, Department of English, Himachal Pradesh University, Shimla.

9. Vatsala, K. **Protect and affirmation in the poetry of Owendolyn Brooks.** Vikram. Dr A C Khan, Reader, School of Studies in English, Vikram University, Ujjain.

Sanskrit

1. Banerjee, Mitra. **Vyakaranagamayostulanatmakamadhyanam.** BHU. Dr Krishankant Sharma, Department of Vedic Darshan, Banaras Hindu University, Varanasi.

2. Choubey, Nandlal. **Ashtadhyayi Saraswati Kantha Bharanayostulanatmak vimarshah, Karak Bhagah.** BHU. Dr B Amal Shastri, Department of Vykaran, Banaras Hindu University, Varanasi.

3. Choubey, Vijay Kumar. **Vaishesik darshan mein karma padartha ka alochanatmak adhyayan.** BHU. Prof S N Mishra, Department of Sanskrit, Banaras Hindu University, Varanasi.

4. Dravir, Mani. **Uttar meemansayam poorvameemansa prabhavam** BHU. Dr N R Srinivasan,

5. Gautam, Devraj. **Nayarth vimarshah.** BHU. D
Chandra Panda, Department of Vyakaran, Banaras Hind
sity, Varanasi.

6. Jayalakshmi, P. **Advaita** Madras. Dr S Rev
turer,Department of Sanskrit, University of Madras, Mad

7. Mishra, Brij Mohan. **Raghuvansh Ma
dharamashastriya tatsyama sameeksham.** BHU. D
Narayan Pandey,

8. Pandey, Gita. **Gopal Champu ka sameekshatmak a**
BHU. Dr (Mrs) Uma Devi Joshi, Department of Sanskrit
Hindu University, Varanasi.

9. Pandey, Vijay Shankar. **Prachya vedparampara**
BHU. Dr Ram Chander Pandey, Department of Jyotish.
Hindu University, Varanasi.

10. Pathak, Satyendra. **Sidhant Koumudya: Swar p
vimarshah.** BHU. Dr Chanderbhanu Sharma Bhardwaj
ment of Vyakaran, Banaras Hindu University, Varanasi.

11. Rai, Madhu. **Vedic vangmaya mein nari ka m**
BHU. Dr Vyas Mishra, Department of Veda, Banaras
University,Varanasi.

12. Rangarajan, G. **Sanskritik grammar and ling**
Madras. Dr Siniruddha Dash, Reader, Department of S
University of Madras, Madras.

13. Singh, Narendra Pratap. **Rigved ke dasham ma
samalochanatmak adhyayan.** BHU. Dr K P Singh, Depart
Sanskrit, Banaras Hindu University, Varanasi.

14. Singh, Rakesh Kumar. **Rigved ke Pratham Mandal k
mik adhyayan.** BHU. Dr K P Singh, Department of S
Banaras Hindu University, Varanasi.

15. Sunita. **Vaishesik Suktropaskar ka sameekshatm
hyayan.** BHU. Dr (Mrs) Uma Devi Joshi, Department of S
Banaras Hindu University, Varanasi.

16.Tiwari,Shyama Kant. **Brahmsutrashankarbhashyapra
hyayasya sameekshatmakamadhyayam.** BHU. Dr Sud
Shekhar Shastri, Department of Vedic Darshan, Banaras
University, Varanasi.

17. Udasin, Kanirna Mahanand. **Panchdashya: Samee
makamadhyayanam.** BHU. Dr Sudhanshu Shekhar S
Department of Vedic Darshan, Banaras Hindu University, Va

18. Vajpayee, Shyam Narayan. **Paraskaranukshya Sut
hyanamanusheelanam.** BHU. Dr Vishvanath Vamandev,
ment Veda, Banaras Hindu University, Varanasi.

Hindi

1. Agrawal, Sandhya. **Chhayavadi kavita mein s
chetana.** BHU. Dr Radhey Shyam Dubey, Department of
Banaras Hindu University, Varanasi.

2. Baskel, Sumitra. **Sathottari Hindi kee mahila kaha
kee kahaniyon mein kuntha aur santras.** Vikram. Dr J P
tava, Principal, Government Girls College, Khargaon.

3. Devi Prasad. **Adhunik parivesh mein Kabir sahi
prasangikata.** BHU. Dr Shambhu Nath Pandey, Depar
Hindi, Banaras Hindu University, Varanasi.

4. Gupta, Meera. **Sathottari rashtriya sandarbha
rang.** BHU. Dr Vimla Singh, Department of Hindi, Ban
University, Varanasi.

eshari, Madhu. **Mohan Rakesh ke katha sahitya mein nghersha.** BHU. Dr Vimla Singh, Department of Hindi, Hindu Undiversity, Varanasi.

Khan, Ahansha Parveen. **Agyeya ke katha sahitya ka shleshnatmak adhyayan.** Vikram. Dr (Smt) Snehlata a, 194, UGC Quarters, Jhabua.

ndey, Sunita. **Ramcharit Manas kee kavya-bhasha.** BHU. gla Prasad, Department of Hindi, Banaras Hindu University, i.

agav, Usha. **Krishan bhakti kavya parampara mein Surdas artendu Harishchandra kee bhakti bhavna ka tulnatmak lan.** Vikram. Dr J P Pandey, G-7, Officers Colony, Dhar.

ai, Avadh Bihar. **Tulsidas kee lok drishti: Sidhant aur** BHU. Dr Srinivas Pandey, Department of Hindi, Banaras Jniversity, Varanasi.

Rakesh Kumar. **Sathottary kahaniyon mein sangharsha** HU. Dr Ashok Singh, Department of Hindi, Banaras Hindu ity, Varanasi.

Singh, jitendra Narayan. **Hindi patra-patrikaon ke it pramukh Hindi vigyapanon kee bhasha ka vishleshnat-hyayan, 1960-90.** BHU. Dr Srinivas Pandey, Department of Banaras Hindu University, Varanasi.

Singh, Usha. **Samakalin rachanasheelala aur Mannu ri ka katha sahitya.** BHU. Dr Sudhakar Singh, Department i, Banaras Hindu University, Varanasi.

Srivastava, Anita. **Hindi nibandha sahitya ko Kashi kee den.** Dr Indumati Singh, Department of Hindi, Banaras Hindu sity, Varanasi.

Srivastava, Rekha. **Surdas kee kavita mein lok jeevan.** Dr Kumud Prabha Srivastava, Department of Hindi, Banaras University, Varanasi.

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Abida Begum. **Wamio Jaunouri : Hayat aur karnamen.** Dr Rafat Jamal, Department of Urdu, Banaras Hindu Univer-aranasi.

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ADMISSION NOTICE 1991-92

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OLLEGE OF NURSING, PHYSIOTHERAPY AND SPEECH & HEARING)

A.B. SHETTY CIRCLE, MANGALORE - 575001 (KARNATAKA)

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ACHELOR OF PHYSIOTHERAPY (B.P.T.): 3 year + 6 months internship

ELIGIBILITY: Pass in P.U.C./10 + 2/or other equivalent examination with atleast 40% of aggregate marks in Physics, Chemistry and Biology

.Sc. (SPEECH & HEARING): 3 years course

ELIGIBILITY : (1) Age: 17-25 years (2) Passed 12th/HSC/PDC/10 + 2 with Physics, Chemistry, Biology and/or Maths

Candidates who are appearing for the qualifying examination for the Academic year 1990-91 can also apply vided they produce the proof of passing the qualifying examination with minimum marks required at the time dmission.

Application forms and prospectus can be obtained from the Secretary, Dr. M.V. SHETTY MEMORIAL UST, A.B. SHETTY CIRCLE, MANGALORE - 575 001, by sending a D.D. for Rs. 60/- drawn in favour of :. M.V. SHETTY MEMORIAL TRUST payable at MANGALORE.

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Prospectus and application form can be obtained by sending a D.D. for Rs. 60/- drawn in favour of DR. M.V. HETTY MEMORIAL TRUST, MANGALORE - 1

Completed application forms should be sent to the Principal of the above College so as to reach on or before .7.1991.

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MYSORE-6

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Applications in the prescribed form are invited for admission to courses in Speech and Hearing. Forms w details can be obtained on payment of Rs. 12/- (Rs. 7/- for SC/ST) in cash or MO/IPO drawn in favour of t Director, AIISH, Mysore alongwith a self-addressed and stamped (Rs.2/-) envelope (23x10 cms).

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Last Date for the receipt of filled in application is **14th June, 1991.**

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THE LAST DATE FOR RECEIVING THE DULY FILLED-UP APPLICATION FORMS FOR M.B.A. IS **26th JUNE, 1991.**

B.A. Chopade

PRINCIPAL

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The application on plain paper with full biodata and certificates must reach to undersigned by **3rd June, 1991**. The candidates should attend the interview on 11th June, 1991, at 3.00 P.M. No T.A./D.A. is admissible for the interview.

J.P.N. Pathak
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Reference above advertisement published on 3rd and 4th cove "University News" issue dated May 6,1991. The following is added:

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Add in para (i) after word Statistics

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davp 10/5/

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.Tech. Courses: Minimum Qualifications: Degree in Engineering or Technology. (For details see Prospectus).

Admission to all M.Tech. Courses will be on the basis of the percentile score obtained at the GATE held in eb. 90/91. However, candidates seeking admission to M.Tech. Electronic Instrumentation and M.Tech. Comuter Science Courses will also have to appear for an Entrance Test to be conducted by the College. The weightage or the Entrance Test will be as given in the Prospectus.

Post-graduate scholarship of Rs. 1800/- per month will be paid to those who are admitted to M.Tech. Courses n the basis of percentile score at the GATE subject to the terms and conditions prescribed by Government of ndia.

Any of the seats remaining unfilled in M.Tech. Courses after considering the applications of candidates who ave qualified at the GATE, may be filled at the discretion of the Head of the institution, by considering the pplications from Non-GATE candidates. A few seats (as per the rules of the college) in each of the M.Tech. Courses may be given to candidates sponsored by Government Orgnisations/Public Sector Undertakings and Educational Institutions or other reputed industries/organisations, without scholarship. Selection of candidates under these categories and also Non-GATE candidates will be on the basis of merit at the Entrance Test to be conducted by the College, subject to the condition that they secure a minimum of 55% marks in aggregate at the qualifying Examination.

M.Sc. Courses and M.C.A. Programme :

Minimum qualifications for admission are given in the Prospectus.

The criterion for admission to these courses will be the performance at the Entrance Test (Written examination) to be conducted by the College.

Admission to all the Post-graduate courses (except for M.Sc. Chemistry), is on all-India basis. Only candidates of Andhra Pradesh are eligible for admission to M.Sc. Chemistry Course.

Reservations : Two seats are reserved for SC candidates and one for S. T. candidates in all M.Tech. courses and M.Sc. courses for which admission is on all India basis. The details of reservations with regard to M.Sc. Chemistry and M.C.A. courses are given in the prospectus.

Requisitions for application forms should be sent to the Principal specifically mentioning the specialisation in captial letters along with a crossed Demand Draft for Rs 10/- drawn in favour of the Principal, Regional Engineering College, Warangal, payable at State Bank of Hyderabad, Regional Engineering College Branch, Warangal and self-addressed envelope of size (25 cm X 15 cm) with stamps of value of Rs. 5/- affixed. Candidates **who wish to apply for more than one specialisation, have to send separate requisitions, each with a Demand Draft for Rs. 10/- and required stamped envelope.** Last date for receipt of filled in applications is 10-6-1991.

PRINCIPAL

GNDU Convocation

From R to L : Dr. P.N. Chutani, former Director, P.G.I., Chandigarh, Justice R.S. Narula, former Chief Justice, Punjab and Haryana High Court, who delivered the convocation address, Gen. O.P. Malhotra, Governor of Punjab & Chancellor and Prof. G.S. Randhawa, Vice-Chancellor of the University

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IARI Convocation

Shri Chandra Shekhar, Prime Minister, arriving in a procession to deliver the convocation address at the Indian Agricultural Research Institute, New Delhi. He is flanked by (L to R) Shri M.P. Jain, Registrar and Shri S.K. Ojha, Jt. Director (Admn). Shri Devi Lal, Deputy Prime Minister, is also seen in the picture.

A Gallant Soldier

Rajiv Gandhi
1944-1991

University News is one with the Nation in mour ing the tragic and untimely demise of Shri Ra Gandhi,the former Prime Minister of India, w was killed in a bomb blast at Sriperumbudur Tamil Nadu on the fateful evening of 21 May, 19 His life had contained so much achievement and much promise.

The courage he displayed in taking up h mother's responsibilities in the certain knowled that he was risking his life finds no parallel.

The lethal blast that has cut off a promisi career offends every civilised instinct. The blow not just to a person but to a process and a concep Mr Gandhi has fallen to forces which did n believe in what he stood for; a strong, unite democratic India.

We at the **University News** will particularly mi him as the architect of the New Education Polic 1986. The manner in which the document, 'Challenge of Education' was prepared at h instance, the keen interest he displayed in the formulation of the policy,and finally the prepar tion of the 'Programme of Action'again at his instance, bears testimony to his thoroughness approach and pragmatic outlook.

It is indeed a time for sorrow and shame for us – sorrow at the irreparable loss we ha suffered and shame at the virtual failure of our total system – political, social and cultural failure to sustain the values of dignity of life and tolerance of dissent as also to curb the cult violence that engulfs our society today. It calls for deep introspection and radical action.

The best tribute that the country can pay to the memory of her gallant soldier is to strength its democratic institutions, reinforce her democratic temper and harmonise the diverse a even divergent interests of its people.

14 JUN 1991
R. I., MYSORE

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NEWS

XXIX MAY 27
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itor :
INDER SINGH

College Students and Collective Violence

Varghese V. Devasia*
Leelamma Devasia**

In 1985 a Principal of a college in Nagpur University was murdered by his students. It was a pre-meditated violent attack on the life of an academic administrator. Violence on the campus is raising its ugly head and Nagpur University is not an exception. The murder in Mahavidyalaya only represented a growing tendency of rebellion among the students.

Violence consists of legal or illegal behaviour that results in the damage or destruction of property or in the injury or death of an individual, group or community. It includes behaviour such as homicide, armed robbery, dacoity, rapes, child abuse, individual or group vandalism, organized crime, arson, terrorism, violence resulting from strike, political crimes, inhuman and cruel acts of police, army and a legally or illegally constituted government .

Collective violence of students which involves groups of students who act towards a group goal which is destructive in nature. It can be divided into three types :

1. Primitive Collective Violence;
2. Reactionary Collective Violence; and
3. Modern Collective Violence.

Primitive collective violence is non-political in nature and involves the participation of local communal student groups. Here one small group of students fights another small group. Reactionary collective violence is usually small in nature, but it pits loosely organised students of various categories against representatives of those who hold power. Modern student collective violence is organised for political or economic goal. Violent strikes, student vandalism, guerrilla warfare, student political violence, student terrorism etc can be included in this category. These types of student collective violence have certain well defined objectives.

College education has an important role in training the youth of the country. Hence student collective violence to a great extent is attributed to poor education or failure of the educational institutions (see Verma, 1977). Student collective violence is also constantly reflective and responsive to given community norms and cultural traditions at a given time (Sanghvi, 1973). In other words, student collective violence is possible only in terms of a given socio-cultural environment.

Student collective violence is nevertheless a human behaviour. Therefore it must be explained within the same general principles which are employed to explain other human behaviour. The explanation of student collective violence should be in consonance with the general theory of human behaviour.

Students and Alienation

Today's student is an alienated individual who experiences powerlessness, which is the expectancy or probability held by him that his own

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**Faculty Member, TCSW, Nagpur University, Nagpur-440 001.*

***Faculty Member, Post-Graduate Department of Law, Nagpur University, Nagpur-440 001.*

academic work cannot determine the life goals he expects. It is the student's perception of lack of control over the decisions in the university. He may feel meaninglessness when he is unclear as to what he ought to think. A students' consciousness searches for meaning of new experiences and fulfilments. His understanding of existing meaning structure is vague and he cannot predict with confidence the outcome of working on specific belief and is unsure about future consequences of his academic performance. He gradually becomes convinced that academically unapproved activities are necessary to achieve success in one's endeavour. He disregards the values that are cherished in conventional educational environment and estranges or detaches himself from the intellectual and/or orthodox standards of the educational institution. Finally, he engages himself in deeds that are not intrinsically rewarding. He becomes aware that he has no control over his academic engagements and the process of his intellectual activities. Hence he becomes violent and destructive.

Student collective violence is a national problem and in the 80s it assumed rather serious proportions in most of the universities in India, disrupting in many areas the normal functioning of colleges and often leading to the breakdown of law and order in various states. Can this phenomenon be explained away as a manifestation of "War against corruption, or the sign of alienation of students or crisis of identity, or attributed to the growing menace of political interference or bleak employment opportunities"?

Some Causative Factors

Student collective violence is the major characteristic of student indiscipline in Indian universities. In many northern universities this violence has often involved destruction of private, government and college property. For example, agitation against hike in bus or train fares in Bombay, lack of facilities in Osmania or Patna Universities, fee hike in Ravishankar or Aligarh Universities are often accompanied by student collective violence (see Sharma, 1978). This collective violence of students may be related to the lack of ventilation of bitter feelings through which the deeply frustrated students can voice dissent. Violence might occur when a person is frustrated and his effort to obtain some goal is obstructed.

The causes of the student unrest that swept Ahmedabad, Aligarh, Baroda, Guwahati, and Allahabad in the 70s and 80s are typical of the factors which have stimulated such violence since Independence. It is not difficult to discern the causes for the student violence, for in most instances local grievances stimulated the violence.

Students in India constitute a lonely crowd even though they create noise. They are the
dividuals who want to do wonders in the future b
lethargic to work consistently to achieve academ
cellence. They are the rebels of today, but buil
events of tomorrow

Students observe a systematic erosion of primar
in their educational institutions and the appearan
cold, anonymous and formal relationships.
develop an attitude towards their teachers which
ves apathy, hatred and disrespect. Emerging com
culture has shattered students' expectations in
academic milieu, failed to respond to their nee
acquire the maximum they can achieve from
teachers by interacting with them as full, emotional
growing human beings. The outcome is that many
dents seek fullness of expression and acceptance
persons who are not teachers but act as teachers, p
cal activism, escapism, drugs and other types of vio
and destructive life-styles. Students feel that their h
thy relationship that once existed with their profess
which was natural, desirable and result oriented
been lost. University is no more for the seeker
knowledge, but for the politician and the corrupt.

Student collective violence is a solution to probl
arising out of frustrated desires. Demands in relat
to examination and the administration of universi
and colleges are a major cause of violence (Shar
1974; 1975). Protest against police action and ot
government functionaries is also a reason for collect
violence. Very often regional differences mirror in p
terns of students' collective violence.

Student collective violence aimed at politi
problems directly related to broader social or natio
issues such as the foreigners problem in Assam, res
vation policy in Gujarat or terrorism in Punjab is m
significant, as it is the most widespread and often m
destructive. This type of student collective violence
triggered by a specific local issue which may have
tional reference and spread gradually to other colle
or universities (see Shukla, 1969). The real cause, ho
ever lies beyond the specific incident and is related
the more serious and general problems that students
that university or state encounter both in their day to
lives and in their vision of the future. The behaviour
the students of many universities in Tamil Nadu, K
nataka and Andhra Pradesh became so violent agai
the imposition of Hindi and the central government
forced to change its policy. When the existing structu
of the government or university are perceived to
unjust or stumbling blocks to the realization of
growth of students, the stage is set for student collect
violence. Many students rebel against such a situat
and lead their friends outside their oppressive, alien

srooms and seek to bring into being new, dig- nd modified university environs.

re exist major institutional variations in student ve violence and it is not a problem in most of the ious professional and technological educational ions such as the Tata Institute of Social Sciences, lian Institute of Management, or the Indian In- of Technology etc. It is also observed that administered educational institutions, such as alas, the St. Xaviers or the Don Boscos have had fficulty than other colleges, perhaps because s often a tradition of academic excellence and a atisfactory student - teacher - public relationship e colleges.

main causes for student collective violence are ficult to perceive. There are five main causes for t collective violence :

ack of proper academic atmosphere;

bsence of respect for authority;

lienation and ideological frustration;

olitical interference; and

Socio-cultural and economic problems and bleak employment opportunities.

nany universities, a good number of students are to provide the minimum necessities of life for elves (see Shukla, 1966). A substantial number of e students are undernourished and in urban areas of them do not get proper accommodation. Stu- ollective violence has a crucial impact in India. eed only mention Kerala, Gujarat and Assam in student violence has actually brought down nments to indicate the importance of it.

ident collective violence is by no means a omenon only of the 1980s. Although it has ed massive publicity recently, student violence in has a long history. The variety and scope of nt violence in various universities in India is sub- al. In recent years, in India, student population ne less homogenous and conditions within the rsities deteriorated. In almost all the states the em of educated unemployment became acute dia, 1974) . Violence erupted in many univer- It has tended to be localized, focussed on univer- sues or local conflicts. Student violence in many ges had led to repression by college or government rities.

e students feel helpless in the existing situation, se they feel :

here is little use meeting the Vice-Chancellor or other university authorities because often they aren't really interested in the problems of the student community.

2. The examination system is ridden with corruption; you are forced to cheat in the examination.
3. Now a days a good number of teachers do not teach anything, because they are aware that they are not competent to teach. Unqualified persons are appointed as teachers due to political pressure.
4. The future of a great majority of students is absolutely bleak because they neither acquire knowledge nor are capable of getting a job which can sustain them as law abiding and self-supporting citizens.
5. Education has become a business. You need black money to buy a certificate or a job.
6. Vice-Chancellors are often political appointees. They cannot be honest and impartial because they have to serve their masters. It is a paradox that the law-breaker becomes its guardian.

Under the surface, students in many universities, maintain a latent interest in violence. Violent behaviour results when the restraining forces are too weak to curb inherent aggressive and destructive tendencies. The high chances of unemployment induce in students a sense of frustration. Violence stems from real frustrations of the students and since these frustrations are difficult to solve, it is likely that violence will be a continuing phenomenon.

The corruption which students perceive at all levels of Indian life makes them more frustrated. The political intrigues and nepotism in most of the universities is a further cause for student violence. In India, the rapid expansion of university education has not been matched by growth in the kinds of professional or skilled jobs suitable for degree holders.

Student collective violence does not exist in a vacuum. The students are members of a college community. The college milieu is therefore of crucial importance in any examination of student collective violence (Bhamburi, 1972). Today's students do not seem to like the educational environment the way it is, and they resent their teachers having created it in such an insincere way. The Principal of a college had to teach a basic course in the postgraduate level, but he never taught it. At the end of the academic year, after numerous requests from the students to engage the classes, the Principal proclaimed : "Don't worry, I will give you the questions, I am the Chairman of the Moderation Committee in the University". But he failed to understand that his irresponsible utterances could ignite the frustrated emotions of the students which spread collective violence.

The condition of student collective violence sets in when educational structures strain students' values, that is, when students' expectations call for changes which the educational system precludes. Hence, student collective violence is a state of conflict between value systems, resulting in some degree of frustration and a sense of separation from the teachers, the deterioration and disintegration of existing educational value systems, which results in extreme anxiety among the student community. There exists a conflict between students' expectations and institutionalized means. The conflicts emerge when there is a general loss of faith in the efficacy of the university or college, when teacher-student relationship is characterized by mistrust than trust or when there is an uneasiness gripping the students because of alarming increase of failures in examination, corruption, nepotism, malpractices and favouritism in the functioning of the academic institution.

Teacher - student relationships are typically the most conflicting during student days, and out of these conflicts the search for separate identifications intensifies. Revolt in colleges seems to be related in such identification. Double-standard in evaluation, hypocrisy in the practice of rules and regulations, not teaching the required courses, interference in choice of friends, authoritarian attitude, etc. are reasons for these revolts.

Man's uniqueness among other animals is that in him questioning has risen to consciousness. Students too question everything, otherwise they are not students. When they question, the authorities see them as rebels. But rebellion is one of the essential dimensions of mankind. Man is the only creature who refuses to be what he is. The spirit of rebellion exists in colleges where ignorance overshadows knowledge; where precepts and practices are poles apart; where academic and research excellence is ignored for "cultural" programmes, where theoretic equality conceals great factual inequalities.

The students, who are the rebels, believe that they have a better way, better than anything they might achieve under their teachers. They are convinced of a philosophy based on freedom of voice. Together with the feeling of rebellion students do understand that their intrinsic interests are subordinated to getting higher grades. They are socialized to the belief that success in college reveals one's fundamental character and that the rewards of such success are a validation of one's intrinsic worth.

Students in universities gradually became aware that the values which are glorified in the textbooks are not
the values on which either the college or the com
are based. The students painfully understand th
Vice-Chancellor, the Principal and most of the te
are interested only in money making rathe
academic achievements and student developmen
students also see the society filled with dichot
caste problems, fanatic riots, poverty, hunger,
repression, hatred, divorce, abortion, dishonesty,
money, corruption, religious violence, drug abu
assassination (see Shanmugam, 1979). All these
in them insecurity, and lack of purpose associate
college education. The students see the educa
system as a monolith, a leviathan, which is static, b
and deaf. To overpower it the students have to be
delinquents or criminals. The sporadic instan
collective violence in our educational institutio
related to this chaotic situation.

Where academic atmosphere and employmen
portunities are ideal, student collective violence m
less likely. Atmosphere of learning, the orientati
curriculum, the intellectual base of the teac
freedom of choice, opportunities of employmen
contribute to the nature of student violence. The
tion of the college often has a relation to the natur
scope of violence. Higher educational institution
responsible for training citizen in modern societie
India, these institutions have assumed an impo
political function which directly or indirectly fo
student collective violence.

Functional Aspect of Student Collective Violence

Collective violence among Indian college stu
does not exist by itself. It has socio-cultural
politico-economic ramifications. Student colle
violence may also reflect the liberating influences o
educational institutions. Students often express
newly found freedom by engaging in violence.

Students opinion as to the place of collective vio
in their lives is inherently related to employ
avenues and economic and political power positi
the country. Hence, the effort to separate colleges
extra-mural influences depends upon these factor
Assam, Gujarat, Kerala and Tamil Nadu student co
tive violence is also affected to a considerable degr
the social position and political values of the inte
tuals of these states. The intellectuals and
academicians in these states realize that they ca
fluence the student community considera
Academicians who are resentful to the policies of
state often stimulate rebellious students. In
universities, these academicians see themselves
deprived lot, one which is not given the reward

cing conditions appropriate to their role.

tudent collective violence in college has also been ed with the low salaries, long hours, and bad working litions of the faculty. The low salaries of university hers in India which require them to find other sourf remuneration, is a factor lowering the educational dards all over India. This directly, or indirectly urages student collective violence.

udents become violent when they lack legitimate nnels of communications with the college orities, university or government. Students turn nt when they find themselves ignored by the power ture. Indian college students generally lack a long perspective. They tend to become quickly rated if their demands are not met immediately (see yavathi, 1973). Sometimes students may turn to nce if they are activated by a major moral issue.

various universities in India student collective nce, in addition to meeting certain emotional and lectual needs of students also has a number of other ortant functions. Student collective violence is a primary contact between the student population he university or state authorities, thus functioning neans of communication between the key elements gher education system. When the students feel gly about a social, cultural, economic or political , such as the implementation of Mandal Commis-Report' they can force the authorities by demandreform and enforcing their desires by violent viour. College life is a transitory state, usually g three to five years (see Mohan, 1970). For many ctive violence is stepping stone to social, economic ncement, while for some others it is a time of lute freedom.

ocial class and power structure are also affected by nt violence. The relationship between the student ociety can also have an impact on the nature of nce. Student collective violence often plays a radile in the university. It can also act as a reactionary . It has played an important and at times crucial n many states.

lusion

e enormous increase in the number of universities ffiliated colleges is to some extent responsible for requency and intensity of student collective nce. The standard of education has deteriorated he rapid increase in the number of students bring surface violent behaviour.

e rush in getting admission has given rise to ems like the lack of adequate facilities, i.e. class-, library, laboratories etc. Educational institu-are an integral part of the society. The problems ging to a particular field, no longer remain confined to their spheres. Thus, the colleges are affected by issues in society or the society at large gets involved in problems of educational institutions. The interaction of the college and the society is normally confined to their immediate environment.

To prevent collective violence the authorities may plan certain concrete programmes including :

1. Enrolment of only highly motivated students in higher education;
2. Centralized selection of college and university faculty;
3. Defence of academic and ideological freedom;
4. Take over by university of all post-graduate colleges;
5. Security and improvement of student life;
6. Equal opportunities for education;
7. Depoliticization of education;
8. Better employment opportunities;
9. Headship by rotating, even in colleges; and
10. Appointment of academicians of repute as Vice-Chancellors.

Student collective violence will no doubt continue in various universities in india at a fairly high level. If factional politics within the universities is curtailed and other reform measures taken, the intensity of student collective violence can probably be limited without major changes in the educational system.

References

Ahulwalia, Sagar (1972) **Youth in Revolt**, New Delhi : Asia Publications.

Altbach, Philip G., ed. (1968) **Turmoil and Transition : Higher Education and Student Politics in India**, Bombay: Lalwani Publishing House.

Bagadia, V.N (1976) "Unemployment and Attempted Suicide", **Indian Journal of Psychiatry**, 18.

Bhambhri, C.P. and Mathur, Kuldeep (1972) **Students, Police and the Campus Unrest : A Study of Image and Perceptions**, Jaipur : H.C. Mathur State Institute of Public Administration.

Chitnis, Suma (1974) **Drugs on the College Campus**, Bombay : Tata Institute of Social Sciences.

Dalme, Y.B. (1966) **College Youth in Poona : A Study of Elite in the Making**, Poona : Deccan College.

Dube, K.C. (1977) "Prevalence of Drug Abuse in Medical Students : An Interim Report", **Bulletin of Narcotics**, 29, 1, 47-61.

Khan, M.Z. (1985) **Drug Use Amongst College Youth**, Bombay : Somiaya Publications.

Miller, Walter B. (1983) "Youth Gangs and Groups, " in Sanford H.Kadish, ed. **Encyclopedia of Crime and Justice**, New York : The Free Press.

(Contd. on page 8)

Rotation of Headship in University Departments
A BOON OR BANE?

N. Venkataiah*

Among several reforms recently implemented in universities in India, rotation of headship (Chairmanship) among the members of the teaching staff of the departments of postgraduate studies is a significant one which deserves the attention of all concerned for its deep implications. In this article the merits and demerits of permanent Headship and rotation of headship in university departments are discussed thoroughly and suggestions to strengthen the rotation of headship are offered.

Permanent Headship

Advantages

The old system of having permanent chairmen to the departments of postgraduate studies has its merits. If the chairman is a dynamic leader, a good scholar and an expert in his subject, the department would grow from strength to strength under his stewardship. His standing in the field and his contacts outside the university can bring in benefits. Perspective planning and development are possible. The teaching and non-teaching staff, students and research scholars would like to consult him for his directions. Under his dynamic leadership and parental care none needs to feel frustrated. Purposefully planned and consistent efforts of the head would enable the department to progress well in all the three functions of the university viz. teaching, research and extension work. Though we cannot score out the existence of ideal heads whom we would like to continue for long as heads, their number in any university is too small to count.

Disadvantages

The system of having permanent heads to the university postgraduate departments of studies has its ills. A person continuously working as chairman till he retires often seems to develop vested interests apart from status consciousness, bias and prejudice. The head is dubbed as belonging to a privileged or princely class in the university. With the benefits of his position, he would resist any reform which would reduce his importance in the university. He is apt to functi autocratic leader rather than a democratic or permanent headship tends to create an op feudalistic atmosphere in some departments. T of undesirable atmosphere would cause discont dissatisfaction in the staff of the department. authoritatrian or dictatorial headship, instead o genial academic atmosphere, feelings of negl frustration would prevail among the colleague department. Their initiative, resourcefulne professional growth would be stifled.

Monopolising the position of headship over period may develop dictatorial attitude, fee ownership over the department and tendency his colleagues as subordinates, who are to fun his will and pleasure and satisfy his demands an mands. Such a head may even like to extend fluence into all aspects of university administra even beyond the university. It is likely that such a may strive for higher status, more money, gre fluence and power. His headship enables achieve his selfish ends and therefore he may d thing possible to retain the headship for himself

Having a position of advantage in the un hierarchy, he can favour his own men in differen As chairman of Board of Studies, he can dis examinerships among his men. He can seek to his men when he is on the Board of Appointme can arrange easily for reciprocation of such between different universities by joining hands counterparts elsewhere. If there are groups department, he would generally lead one group to favour members of his group with regard to wo promotion, use of facilities, professional travel a other benefits without caring for equity and justice. Though he might become a subject criticism now and then, nothing could be done t him as far as he enjoys the position as head. A few members of staff who are generally divided themselves would like to extend their full coop to him either out of fear or for trivial gains from 'divide and rule' policy might suit the boss too.

The permanent head may wage a war again who are known to be opposed to him in the depa He may try to weed out such people or he may them by giving more work, inconvenient

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nments, or a neglected or unimportant sub-
ay not recommend the names of the disliked
e department for any important position or
e or outside the university. He can also fabri-
s against his opponents and spread all wrong
bout them in important circles. He may not
em to conferences and seminars. Even
rculars may not be shown to them. Any small
heir part will be an opportunity for him to
d for a punishment or to cause embarrass-
umiliation. It is not uncommon to hear that
elonging to his caste are favoured by him. He
ften escape from teaching work on the pretext
strative work.

h many disadvantages are listed out against a
t head, it does not mean that every head would
such things but the possibility cannot be ruled
the chances of curbing such tendencies are
Checks and balances are not often adequate.

of Headship

*ges**

stem of rotation, the headship will be changing
e members of the department every two years
he staff form a continuum rather than a hierar-
may function as such. The head is likely to
his colleagues to be equally important and
not better. Comparison between the preceding
ceeding heads should be expected. One has to
rily work hard and keep up good relationship
e colleagues. non-teaching staff, research
and students if the head wants to earn a good
the short duration of two years. He can easily
ome energy and time for the developmental ac-
f the department because his tenure is only two
He would not think in terms of kicking down
n the department as that would make his reputa-
d future position shaky. A sense of impartiality
evail in him which would help to avoid wrangles
satisfaction inside the department. Rotation of
ip can bring to a close already existing factional
nd cold wars in and outside the departments.
member of the teaching staff can become the
ne day or the other. The very feeling that the
ip is rotating will make the members of the
ment feel that they too can share the respon-
or enjoy the headship in the near future. What
teacher wants is academic freedom and equi-
distribution of professional opportunities within
partment. The rotation of headship helps the
rs to feel that they are part of the department, that
re free, and their self respect is protected. This
will enable them to put in their best. The prin-
of collective responsibility is upheld, and it is
ally accepted by all. The chairman becomes more of a coordinator than a director.

Every head is aware that he too has to work later under the headship of others. That all the administrative responsibilities shouldered by him will be transferred to the next head gives an expectancy of relief for him. If he feels that he is wasting a lot of time on routine administrative work, it is only for two years. What he has lost during the tenure of headship could be gained with his serious involvement in the academic work after he is relieved of his headship.

Disadvantages

Under the rotation of headship, every staff member in the department has a chance of becoming the head. When the principle of rotation of headship is mechanically followed — in letter rather than in spirit — it is likely that an experienced young lecturer too might become the head. He may have no alternative except to go by the dictates of the senior persons in the department on annual proposals, enquiries and queries to be attended, opinions sought by the same university or outsiders. Instead of providing leadership to the department, the head, himself may have to be led by others. He has to go from pillar to post in the administrative office of the university for every trivial thing. He is not likely to carry weight in his dealings with the university administration. He may not be in a position to command respect even from the peon and clerk of the same department. Even a senior research scholar may try to dictate terms to the head. When the head is weak academically and administratively, every one in the department can wag his tail. We can expect indiscipline in such department which will further spread to other departments and then affect the university administration too.

Is Rotation of Headship a Boon or Bane?

Though the rotation of headship can, in general, be a boon providing equal opportunity to every staff member in the department to shoulder the responsibility and to enjoy the benefits/hardships of headship, and promoting collective responsibility and cooperation, it becomes a bane when everything is let loose without adequate and purposeful control just to satisfy all members in the department, without expecting accountability.

A number of universities in the country have already introduced the system of rotation of headship. A few universities have got the experience of about a decade. One bitter criticism heard from such universities is that the efficiency of the departments is lost and there is little control on the members of the teaching faculties. However going back to the system of permanent headship is ever going back to the system of permanent headship is not desirable in the interest of the persons concerned or in the interest of department as a whole. To strengthen the democratic frame which has already been set, rotation of headship has to be continued.

Measures to Strengthen Rotation of Headship

If the university administration is interested in the success of the system of rotation of headship, all the weak links observed have to be strengthened without further delay. Some steps suggested for strengthening the rotation of headship are as follows:

(1) It is better to fix certain eligibility conditions for headship such as possession of Ph.D degree and a minimum of ten years of teaching experience in any university or at best a senior lecturer.

(2) Rotation can be fruitful only when there is a functional departmental council in each department to uphold collective responsibility, to ensure reasonable continuity and to guide and control each rotating head. The council should bear in mind the long range interests of the department and initiate such activities as would fetch name and fame to the department.

(3) The head should seek cooperation from all concerned, with faith and confidence in the senior members of the department. The head should seek their support in strengthening the departmental activities — research, teaching and extension.

(4) The powers of the head should be restricted and shared with the council. The principle of accountability has to be emphasised and followed.

(5) Teachers who are deeply interested in academic work may even be permitted to decline the headship.

(6) Different positions — the chairman of the department, chairman of the department council, chairman of Board of Studies, chairman of Board of Examiners and other committees, if any, need not be vested in the same person. Complementary leadership roles like these may better be shared.

(7) The head under rotation will be in charge of the administration of the department and function in accordance with the departmental council's decisions and suggestions. He should function like a coordinator rather than a director.

(8) The powers, duties and functions of the departmental council, council chairman and the department chairman should be prescribed without any ambiguity by formulating clear statutes.

(9) The statutes relating to the department chairman should clearly specify among other things, (i) the qualification and experience required for ge chairmanship, (ii) whether the chairmansh open to all teaching cadres or confined to ce cadres, (iii) who is disqualified to become c man? (iv) who should grant leave to all cadre staff in the department? (v) what are the spe powers, duties and functions of the chairman? when the chairman is on leave who should be i in charge of the department? (vii) how many h of work load should the chairman attend? (viii) if a senior person in the department does care for the chairman who is a relatively ju person, what kind of disciplinary action has to initiated.

Conclusion

If these suggestions are appropriately carried the rotation of headship will consequently yield bet results. Only then will the rotation of headship beco a boon to the department and not a bane at all.

(Contd. from page 5)

Mohan, D. and Arora A. (1975) "Prevalence and Patterns of D Abuse among Delhi University College Students," **Journal Indian Medical Association**, 65.

Mohan, R.P. (1970) "Sex Differences in Adolescent Adjustment Problems," **Sociological Bulletin**, 19.

Sanghvi, L.M., ed. (1973) **Youth Unrest : Conflict of Generatio** Delhi : National Publishers.

Sathyavathi, K. (1973) "Student Suicide in Bangalore," **Indian Jo nal of Social Work**, 34, 2, pp. 101-106.

Shanmugam, T.E. (1979) **A Study of Drug Abuse among Coll University Students in Madras**, Madras : Madras University

Sharma, S.L. (1974) "Social Value Orientations of Activist Stud Leader : A Comparative Study, "**Indian Journal of Social W** 35, 1

Sharma, S.L. (1975) "Student Politics and Protest : A Compara Study of Two Universities," **Social Action**, 25, 1.

Sharma, S.L. (1978) "Family Antecedents and Student Protest," **dian Journal of Social Work**, 38, 4, pp. 357-366.

Shukla K.S. and Jatar, D.P. (1966) "Influence of Family Backgro on Student Indiscipline, **Journal of Correctional Work**, [illegible]

Shukla, K.S. (1969) "Student Indiscipline and Educational Insti tions," **Journal of Correctional Work**, 15.

Singh, U.P. and Akhtar, S.N. (1972) "Personality Variables Cheating in Examination,", **Indian Journal of Social Work**.

University Grants Commission (1960) **Student Indiscipline in dian Universities : A Report**, New Delhi : U.G.C.

University of Osmania, Deptt. of Psychology (1978) **A Study of D Abuse among College/University Students in Hyderab Secunderabad**, Hyderabad : Osmania University.

Veeraraghvan, V. (1972) **Students and Drug Use**, New Delhi : Fa Publishers.

Verma, V.K. (1977) "Drug Abuse among College Students," **Ind Journal of Psychiatry**, 19

Indian Higher Education and Economic Growth in 1980s

R Srinivasan*

Our university education system has witnessed size-e growth in the 1980s and especially in this decade el courses in the subjects of applied science, com-er engineering and management have attracted a ge number of students. Also in the mid 1980s realiz-the increasing importance of human capital forma-n the erstwhile Ministry of Education was renamed 'Ministry of Human Resource Development' and rusted to a minister of cabinet rank.

In view of the of repeated relationship between ucational progress and economic growth and their tual influence which goes to provide a better scenario these two phenomena, increasing attention is now d to analyzing the inter-dependence between them. is is also partly due to the fact that highly qualified ople are better placed and enjoy a higher salary than ose who have been deprived of the benefit of receiving legiate education in general or professional fields. In s paper an attempt has been made to analyze the ative expansion in the educational and economic ogress of the country and the degree of association tween them during the period 1980-90. In this conction the growth achieved in student enrolment in gher education in the degree, post-graduate and rearch programmes in general and professional higher ucation and the expansion in the facilities available ve been computed. The economic growth achieved us as measured by the increase in the money as well real incomes per capita of the country as reported ive been considered and inferences drawn on the basis their degree of association. This period also coindes with the two five year plans – VI and VII and it is so apt to analyse the relative growth witnessed under e relevant periods.

A glance at the facilities available in India for higher lucation revealed the following.

TABLE 1

Number of Colleges and Universities 1980-90

ear	No. of Colleges	No.of Universities	Average Student Population for a University
980-81	4,722	123	22,377
985-86	5,482	156	22,890
989-90	6,040	179	22,346

Of the total number of colleges nearly 72% of them catered the students who want to pursue general higher education in the disciplines of arts, commerce and sciences in the early 1980s and the rest are professional colleges covering the subjects agriculture, education, engineering legal, studies, medicine, etc. There is not much difference in the average number of students per university throughout the 1980s as it was about 22,000 to 23,000 which indicated that so many students may get their degrees from any one university.

The other aspects relating to the number of students enrolled and the indicators of economic growth viz., money and real per capita incomes over the relevant period are furnished below:

TABLE 2

Enrolment And Per Capita Income

Year	Enrolment in Higher Education	Per Capita Income (Rs.) Current Prices	Constant (1980-81) Prices
1980-81	27,52,437	1,627	1,627
1981-82	29,52,066	1,851	1,686
1982-83	31,33,093	1,993	1,687
1983-84	33,07,649	2,294	1,786
1984-85	34,04,096	2,477	1,812
1985-86	35,70,897	2,721	1,836
1986-87	36,81,870	2,974	1,869
1987-88	38,14,417	3,346	1,918
1988-89	39,48,000*	3,875	2,078
1989-90	40,00,000*	4,252	2,142

*Provisional

An analysis of the above details reveals the following:

a) The increase in the number of universities was 4.5% per annum on an average during the decade 1980-90. Among the two plans, VI plan registered nearly 26% increase in the number of universities whereas it was only 14% in the period 1985-90. Once again, during the approach to 1990s there seems to be a trough for some specific reason.

b) In terms of number of colleges the overall increase was 27%in the 1980s. Here also the growth in the number of colleges was more by nearly 6%-ie., 16% in the VI plan period when compared to 10% in the later

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half of the decade.

c) The enrolment of students in colleges and universities registered an average annual increase of 4.52% in the period 1980-90. The same when considered plan wise worked out to 23% and 17% respectively in the VI and VII five year plans.

d) Money per capita income at current prices showed an average increase of 16.13% in the decade. Also the growth recorded in VI plan (52%) is lower than the correspondeing increase (71%) in the VII plan period. Money per capita income recorded the maximum increase among all the indicators considered here.

e) Real per capita income (constant prices-1980-81) registered an increase of 3.16% on the average in this decade. Also the growth was more in VII plan (18%) than in VI pan (11%).

f) The rank correlation coefficient worked out between money per capita, income and enrolment comes to 0.25 which indicates that the relationship between education and economic growth of this sector of education in the 1980s is positive and not significant. This low correlation however confirms the popular belief that both educational progress and economic growth represent a two-way relationship and continue to do so for registering appreciable growth in both the directions.

g) The association between enrolment and real per capita income at 1980-81 prices shows a negative trend and works out to -0.01. This goes to indicate that in real terms enrolment in higher education and economic prosperity in the 1980s are not positively associated. From this it might be inferred that the economy has not registered an appreciable increase in real terms and hence the result is not encouraging. Also the ever growing increase in the number of unemployed graduates results in low utilization of human skills and therefore it could be presumed that the addition to the gross national product is not much.

h) Another feature which could be observed at this juncture is that in the VI plan a total expenditure of Rs.537 crores was incurred on higher education which comes to 18% of the total money spent on education sector. Against an outlay of Rs.486 crores there was an excess expenditure during the period to the tune of Rs.51 cr. In the second half of the decâde the VII plan allocation to higher education recorded an appreciable increase over the previous plan and a sum of Rs.2,595 cr (45%) was earmarked for higher education out of the envisaged outlay of Rs.5,733 cr for education. This shows that VII plan gave higher priority to higher education. Perhaps this could have been necessitated for the implementation of new educational scheme in the wake of NPE 1986.

Planwise comparative growth rates real of all indicators mentioned above are depic

TABLE 3

Comparative Growth Rates in VI and V

	VI Plan (1980-85)	
Higher Education:		
No. of Universities	26%	14
No. of Colleges	16%	1
Student Enrolment	23%	1
Per capita Income (Economic indicator)		
at current prices	52%	71
at constant (1980-81) prices	11%	18

A quick glance at these statistics indicates t educational indices had more appreciation in half of the decade the performance of the showed grater improvement in the second ha decade.

In fine it could be concluded that the highe tional scenario witnessed more or less an equa of growth in 1980s in terms of the increase in the of universities and the student enrolment i universities put together throughout the count growth rate of colleges was the least in this dec the economic front there was a huge gap betw growth of money and real per capita incomes b 12% on the average per year and perhaps nullified a direct association between enrol higher education and economic growth neces the alround development of the country. Th clear cut policy implication can be drawn fro facts yet they are helpful in fixing necessary p in the right direction for the benefit of all conc

References

1. **India's Economy in Figures** (1988). New Delhi, Central Organization, 1988.

2. Kiranmayi, Y.S. **Management of Higher Education in I** Delhi, Crown Publications, 1989.

3. Kulandaiswamy, V.C. Management of Higher Educatio **University News** 22 Oct. 1990.

4. **Universities Hanadbook**, 1985-86. New Delhi Associat dian Universities.

5. **Universities Handbook**, 1989. New Delhi Associati Universities.

Empowerment of Women Through Extension Education

Santosh Kumar Mishra*

ction

en are capable of playing significant role in ociety and professional spheres. The Indian tion provides equal rights and privileges for l women and makes equal provision to improve s of women in society. In setting targets con- women, special exercises are undertaken in the relevant sectors like education, health and velopment. The planning for women is a part of rall planning in the country. But majority of are still unable to enjoy the rights and oppor- guaranteed to them. Society has yet not suc- in framing the required norms to enable them the multiple roles that they are expected to play today. This necessitates the task of empowering in the society. It is, therefore, necessary to the process through which changes in their an be brought about. Responsibility of further- r status lies, to a great extent, with the univer- For this purpose, the universities are entrusted, UGC, with the task of inclusion of "Extension ch" with other ongoing programme which are t development of both rural and urban women. per is an attempt to study the strategy through he universities can strengthen the scheme of on education. This study will also give an insight e measures to be undertaken for women's ment within the university system and with sup- m the UGC.

ion Education — The Conceptual Framework

dly speaking, the major objectives of extension on are:

ringing more and more people under the umbrella development through process of extending the nowledge of recent advances in science and tech- ology, and

anging the outlook of people to improve their uality of life.

UGC has introduced the concept of extension programme in the university system. The university extension would represent the attempts (1) to extend educational opportunities to those who have not been able to attend institutions of higher learning, and (2) to render services to different sections of society. The UGC has recommended extension programmes for schools, colleges and community.

It is a happy sign that the UGC has made remarkable efforts to identify extension as the third function of universities. A university has the following four main tasks to perform in order to strengthen the extension programmes :

(a) *Extension Service within the System*

The curriculum can be developed in such a manner that the trained graduates can organise extension services or study the problem of the target group. Further, extension programmes with definite linkage of involving every student in community projects, rural development etc. could be promoted.

(b) *Extension Service outside the System*

The universities and colleges can develop close relationship of mutual services and support with their adopted areas/communities/villages. This also necessitates the task of regularly involving teachers and students in extension services.

(c) *Action Research*

A new order of research activity could be undertaken which involves many disciplines of the education. This will generate a mutual and continuous interaction between the institutions of higher learning and the community.

(d) *Training Programme*

The institutions can also play a greater role in imparting training to various levels of functionaries drawn from government and voluntary sectors. Such a training programme may aim at skill rejuvination of the personnel. This, in turn, will motivate the functionaries to initiate social action.

Thus, the rôle of universities in management of extension programmes comprise (i) assessing needs of the

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ical Assistant, Population Education Resource , Dept. of Continuing and Adult Education xtension Work, SNDT Women's University, ty-400 020 community, (ii) identifying educational programmes which will meet these needs, and (iii) instittuionalising and locating such educational programmes in the community through a process of model building in the areas of extension, research and training.

Status of Women — Socio-Economic and Demographic Perspective

The demographic and economic statistics give an idea of the shocking deprivation of women. The gender discrimination is clearly evident from the comparative figures for males and females. The sex ratio, defined as the number of females per 1000 males, continues to be highly unfavourable to females. In the 1981 census, the overall sex ratio was 933 (951 in rural areas and 878 in urban areas).

High rate of female mortality on the other hand, is a reflection of lower access of females to health and medical services. According to a UNICEF study, "if female infants die at a faster rate than their male counterparts, the inference is that neglect of female health is deeply rooted." In another study of attendance of patients at a Primary Health Centre(PHC) in Haryana, it was observed that the percentage of male children receiving treatment was 76.8 as against 23.2 in case of female children. It was also found that often in the case of daughters, parents abstained from taking medicines and visiting dispensaries as they commonly believed that their daughters would recover on their own.

As regards marital status, the incidence of child marriage amongst females is much higher than the males. Again, this incidence is higher in rural areas (7.8% in females and 3.1% in males) than in urban areas (2.2% in females and 1.0% in males). The adverse effects of early marriage are well known. High rate of illiteracy amongst females, on the other hand, limits their access to employment, health facilities and exercise of legal and constitutional rights. The female literacy rate, according to the 1981 Census, was 24.8% as against 46.9% for males.

On the economic front, the work force participation rate in females is 14.0% as against 51.6% for males (1981 Census). The activity profile of female workers presents complex picture. Female workers are engaged in multiplicity of activities which varies from unpaid family work to wage labour outside the home. But due to deeply entrenched social customs, their work continues to be invisible and confined more to non-monetary activities.

Profile of Extension Education/Programme for Women in India

The evolution and development of extension education in India is spread over a long period of time with many ups and downs. After the attainment of freedom,
India has worked out its own countrywide p
of extension education. Due to lack of sch
cient India and lack of interest amongst rulers
ing the masses, education was imparted by th
in their 'Ashrams'. Students, some of ther
memorised the teachings and sang while see
from door to door. This was the eraliest
extension education of women. Gradually, the
of women's education faced problems whenev
were excluded from social and public l
medieval period. Then the British arrived in
their missionary activity. The missionaries o
schools for girls and attempted teaching of
class women through governesses. The teach
parted was almost similar to the present day
education.

Next came social reform era where wider
forts were made by socio-religious institution
some prominent individuals for emanci
women. Some of these institutions are –
Samaj, Arya Samaj and Ram Krishna Miss
credit for pioneering work in formal extens
goes to Rabindra Nath Tagore and Mahatma

The above profile makes it clear that
education was developed through the ages
Today the programme of extension educat
integral part of the national development sc
both in government and voluntary sectors. So
tant agencies involved in extension programm
Department of Social Welfare (ICDS), Natio
Education Programme, Indian Red Cross
Bharatiya Grameen Mahila Sangh, Kasturb
National Memorial Trust, Harijan Sevak S
Adult Education Institute of Jamia Millia Isl

Programme for Women under Extension Ed

The UGC has considered women's studies
the critical inputs for socio-economic devel
the country. For promoting women's e
women's studies cells have been establish
universities. The UGC has suggested the
thrust areas under women's development:

- Awareness programmes on social is
  atrocities against women, dowry and sa
- Programmes for transformation of value
- Legal literacy programmes and free l
  tance.

Programmes for empowerment of women
initiated by networking with women's organ
both governmental and non-governmental. I
strengthen this focus, sound training progra
ported by relevant teaching/learning mater
print and audio-visual) need to be organis

ientation programmes should involve various
unctionaries working for emancipation of
.

ly the problem of illiteracy among women is
disturbing factors which come in the way of
-economic development. The responsibility
ng female literacy rate lies with the extension
programme. It is a known fact that women
ated will bring change not only in their own
ent but also in the development of whole fami-
ety. Keeping this in view, the comprehensive
of integrating functional literacy with other
developmental programmes is being given

of the centrally sponsored ongoing program-
omen are — (a) Non-formal Education for
nd Girls, and (b) Functional Literacy for
men. The former is aimed at strengthening
education, in general, and preserving mater-
hild health care, in particular. The latter, on
hand, aims at imparting literacy skills to rural
women.

significant extension programmes for
development, as suggested by the UGC are
nuing Education; (b) Population Education;
ning Forum; (d) Science for the People;
Literacy; and (f) Environmental Education.
ties are expected to undertake, through
ents/Centres of Continuing and Adult Educa-
Extension, the above listed programmes.
eas under the scheme of continuing education
lopment of vocational skills and professional
nce among women, formation of self-employ-
d self-reliance activities and organising need
ogrammes for women.

esponsibility of initiating Population Education
mes, which is aimed at creating population
ss, lies mainly with the colleges. The colleges
cted to organise, through Population Educa-
bs, population awareness programmes in col-
pus and their respective neighbouring/adopted
ities.

Planning Forum is envisaged as an information
the area which will serve as a common platform
ents, teachers and community for receiving,
nating and sharing information on varied
of developmental planning. The scheme of
Forum need to be activised by involvement of
mber of universities and colleges.

e has been growing recognition that 'Scientific
' is essential for better standard of living. For
pose, Science Clubs should be established in the
ity. Legal Literacy, on the other hand, is a
isite for enabling women to achieve justice,
liberty and equality. The universities and colleges should launch legal literacy programmes, in collaboration with law colleges. Concern for environmental protection has necessitated the task of imparting Environmental Education to urban and rural women. Environmental Education should form an integral part of the formal education.

Above all, women's universities and colleges have a crucial role to play in promoting extension programmes for women. They can provide leadership to women. They should work for educating women in a manner that will make them conscious of learning opportunities which, in turn, will help them acquire equality in social status.

Concluding Remarks

The universities have accepted the important place of extension work, besides teaching and research. However, institutionalising need based extension programmes is not yet operationalised in most cases. In order to ensure effectiveness of extension education for women, appropriate evaluation methods should be developed. Furthermore, extension work must penetrate in all disciplines of life. To sum up, integrating extension as the third dimension in the university system is imperative for realisation of goal of emancipation of women and making them contribute to the cause of national development.

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References

1. Hans, Gurmeet, **'Non-Formal Education for Rural Women'**, Publication 2, Bombay : National Service Scheme, Tata Institute of Social Sciences, 1985, P.2.
2. Singh, S.N., Premi, M.K., Bhatia, P.S. and Bose, Ashish, **'Population Transition in India,'** Vol.I, Delhi : B.R. Publishing Corporation, 1989, P.32
3. Government of India, **'Shramshakti — Report of the National Commission on Self-Employed Women and Women in Informal Sector'**, New Delhi : Government of India, 1988, p. 16 to 30.
4. Bhansali, K.H., **'Sign-Posts for Learning Society'**, Nashik : Gokhale Education Society, 1984, P. 57 to 59.
5. Kapoor, Mahindra, **'Women and Family Life Education in India'**, Jaipur : Printwell Publishers, 1986, P. 6 to 8.
6. Dey, S.K., **'Random Thought'**, Vol.I, Community Project Administration, Government of India, 1956 P.111
7. University Grants Commission, **'University System and Extension as the Third Dimension : Report of the Review Committee Appointed by the U.G.C.'**. New Delhi : U.G.C., 1987 P. 118
8. Department of Social Welfare, Ministry of Education and Welfare, **'Towards Equality — Report of the Committee on the Status of Women'**, New Delhi : Department of Social Welfare, Ministry of Education and Welfare, 1974, P.359.
9. Bhatia, S.C. and Bhansali, K.H., **'Social Development Management : Notes for a Training Programme**, New Delhi : Indian University Association for Continuing Education, 1987, P.22.

CONVOCATION

Poverty and Agricultural Development

Hon'ble Shri Chandra Shekhar, the Prime Minister of India, delivered the Convocation Address at the 29th convocation of the Indian Agricultural Research Institute, New Delhi. During the course of his address the Prime Minister observed, "The agricultural operations are mostly in the rural areas and the rural areas do not provide the necessary facilities — facilities for education, for health services; and now the question has come of personal security. All these problems are to be tackled but all these problems are also related with the problem of poverty. The poverty in this country cannot be removed unless and until we pay more attention to the agricultural development. And agricultural development solely depends upon your knowledge, experience and with your excellence. Only then, by adopting the new technology the modern technology, we can produce more." Excerpts

I feel proud to be with you this morning. I feel proud because the nation is proud of you. This is the Institute of excellence and the whole nation is proud of you because you have not only done good to this nation, but you have also earned a name for the nation in the whole world. I congratulate all the young scientists who had got degrees today and I expect that they will have a brighter future. With your future is linked the future of this nation. So I am not doing any obligation to you. I have come to you with expectations and with a hope from you and I hope that you will fulfil that hope for the whole nation.

I am not here to give a convocation address in the normal term because I am not ready for that as you see, I have not brought any sermon written to you. But I assure you that I sincerely feel that you are the strength of today's India and you are the hope of tomorrow. Upon our shoulders lies the future of this country. I know that in difficult days of our history, this Institution and scientists, old and young, have contributed a lot to bring this country from the muddy morass of misery. We cannot forget the days of disgrace when we were dependent upon foreign nations for our food production and for our food requirements. Only with your effort, if I say, we could come out from that shameful position. Now the country can be proud of producing to meet the basic minimum needs on food front of this country.

But the task is not over. Because our per capita consumption is not according to the international standard. It is a matter of great tragedy and shame that in spite of all our developments and in spite of all your endeavour and efforts, we have not been able to produce necessary quantity of food where the minimum calories requirement of our population could be met. It is unfortunate
that there are millions of
and expectant mothers
country who go blind or
disabled children because
nutrition. This is not only
of the less production but
problem of availability to the
have not been able to create
sary purchasing power w
people. And if the food is a
they are not able to avail it
an unfortunate position, fo
you are not responsible. I k
you have increased the pro
in wheat, rice and sugarcane
have to go a long way in the
pulses and oilseeds. A co
India's size, where more tha
cent people are engaged in
ture, we still depend for our
oils on foreign countries.
can be more degrading than
the present situation, as the
Prime Minister has just men
the Gulf crisis has made the
tion more precarious. The
exchange position is very
and even to import edible
are finding it difficult and
coming a stupendous task
whole nation. I know that if
tention is diverted to in that
tion, it will be possible for
self sufficient in oilseeds and
other areas. The same is th
tion of cotton. The cotton
tion in spite of all our efforts
been equal to the expectatio
world in spite of all techn
developments has not been
meet the requirement of clo
artificial fabrics. I do not kn
long will the artificial fabrics
popular with the people,
science gives us the panor
development but scienc
provides us the area of dest
I don't know in a short time
scientists would be saying a
man made fibres. So a cou
India, which is proud of tra
production of textiles shoul
itself for the production of m
ton so that we could be self
not only in the cotton pro
but also to keep the place of
the textile industries in the

world. In spite of all our set backs and all difficulties, the textile industry is only next to agriculture in providing employment to this country. Agriculture is the area where most of the people are employed. I know that they are not in a very happy position. But with your endeavour, with your dedication, with your research and with your excellence, and with your extension work, I think, a situation will arise very soon, and the rural areas and the working classes in the rural areas—the agriculturists and the labourers will find it as a position where they will be able to lead a very happy and joyous life. It is unfortunate that agriculture even today is not very remunerative and is not very attractive. Our best producing States, Punjab and Haryana few years back or a decade back were attracting many young men to agriculture. But today the position is again changing in the other direction. People don't want to take to agriculture. It is not only that it is not remunerative but it is a work of drudgery. The agricultural operations ae mostly in the rural areas and the rural areas do not provide the necessary facilities – facilities for education, for health services; and now the question has come of personal security. All these problems are to be tackled but all these problems are also related with the problem of poverty. The poverty in this country cannot be removed unless and until we pay more attention to the agricultural development. And agricultural development solely depends upon your knowledge, experience and with your excellence. Only then, by adopting the new technology, the modern technology, we can produce more. I know you are doing a lot in the field of biotechnology and other areas but in spite of all these efforts we have to go a long way to carry our research to the rural population,to the villages. That task is still far behind the expectation; for that I shall appeal to you all young men and women who have got degrees today "Can you not make it a dedication, that for sometime, you shall go to rural areas and try to educate the people to be self-reliant, to be confident, to be hopeful about the future." The rural population, today, is totally neglected. It is your job, it is your task, it is your national duty – to create a new confidence among the rural masses. If the people from the cities, from such institutions, go to rural areas and give them a sense of confidence, we can go a long way.

In the days of darkness, when there is no hope, the only hope is the enthusiasm, the dedication, and devotion to duty of the young men and women which brings the nation from morass.

The country is passing through a difficult time, and in these difficult times we look towards you. I am not giving a sermon to you. As a fellow citizen of this country, I have come to you to give a word of caution. If you are not able to create a sense of confidence among the rural people, among the people who are unprivileged, who are exploited, who are poor, there is no hope for any of us. The situation is fast deteriorating. If the people are taken to despair and frustration there is no hope, there is no possibility for your science research to bring any result for the humanity as such. The situation is deteriorating because people see no hope. In order to create that hope and confidence, the more privileged people will have to identify themselves with the problems of the poor people. You are the privileged sections of the society, not only you, all of us who have been educated in universities and colleges in a country like India where more than 65 per cent of people are illiterate. You should understand that you are one of the most privileged sections of the society, because the society has spent the hard earned money and resources upon you in order to get this education. But if your aim is and if our goal is to get individual or personal excellence and personal achievement and personal comfort, I think it is a shortsighted attitude. Because if there is ocean of poverty and miseries all around, there cannot be islands of prosperity in between. Because it has been always seen in history that time and again, it is not the question of philosophy, political philosophy, it is not the question of "isms" whether socialism or capitalism. Whatever you might be talking about but the ultimate result is that frustration and despair results into social tension, chaos, violence and destruction. Whether a Chechasko or a Marcos, whether claiming to be a socialist or trying to be protagonist of capitalism, meets the same fate. In order to avoid that situation in the country where we preached non-violence, peace, cordiality to all the world, it is our duty that we see that people don't get to frustration and despair. I am glad to say that you have achieved something in your life in a very young age. All those who have got Masters Degrees or those who have got the excellence for doing the research work, they are the fortunate people because they have acquired a certain amount of self-confidence. It is not that you have got a degree or a gold medal but you have got the greatest asset of man, and human life and that is self-confidence. By self-confidence you can move the mountains. The time has come that young men and women with self-confidence that they have gathered in this Institute should go in order to kindle a new ray of hope among the people who feel despaired. I hope and trust that on this occasion all of us will dedicate ourselves to the service of the poor. I shall not like to say anything more. I can't give a sermon to you but I shall like to remind you of the great saint Swami Vivekananda, who told the student community that for ages you had been taught by your teachers, seers and saints – "Matri Devo Bhava", Pitri Devo Bhava", "Grur Devo Bhava". I give you another slogan "Daridra Devo Bhava". The poor is the God and the service of the poor is the greatest service of humanity and this is the greatest worship.

CAMPUS NEWS

Delhi Varsity Convocation

The repetitive experimental interference with the education system in the country had brought indiscipline into it, the Chief Justice of India, Mr Justice Ranganath Misra, said while addressing the 68th Annual Convocation of Delhi University. He said the fallacy to coordinate between educated manpower and the existing or estimated demand for it had led to increasing incidence of unemployment among the educated youth and had led to immense social unrest.

Mr Justice Misra, who is also the ex-officio Pro-Chancellor of Delhi University, said education was an instrument of social transformation, first by transforming the individual and then bringing about the generation of social culture.

Today human relationship in the educational institutions had become mechanical and commercial - the student had a feeling that the teacher had a duty to teach for the fees he paid to the institution and the teacher likewise was prompted by no other higher motive than repaying the salary he got from the institutions, he said.

The Vice-President, Dr. S.D. Sharma, who is also the Chancellor of the University, presided and gave the traditional commandment to new graduates from Tattiriyopanishad. He also presented 157 medals and prizes to students who topped in various subjects. Degrees were conferred upon 29,361 students from various courses. It was after the lapse of many years that a D. Litt. degree was awarded. Dr. T S. Rukmani, Principal, Miranda House was the proud recipient of the only D.Litt in Sanskrit awarded by Delhi University.

Mr. Justice Misra said real education had to lead to full development of the personality of every individual and failure to deliver this end product should have put us on guard that the prevailing process of education was not the proper one for the country.

He said under the present system, a minimum period of 15 years was spent in educational institutions. By the time one graduate, one-third of average life span was over, he said. Even though such precious part of human life was spent, the purpose was not achieved, Mr Justice Misra said.

This was sufficient notice for introspection and there was a need for overhauling of the system, he said.

He further said our constitutional fathers had made several time-bound provisions in the Constitution — principle of reservation or our official language.

"Nothing discernible within the time set was done and we have kept on changing the period originally indicated in the Constitution," he said.

Mr Justice Misra said : "Lack of commitment and the development of the appropriate national work culture are the reasons for th deficiency."

National Seminar on Functional Management

A National Seminar on Functional Management was organised by the Department of Commerce, Feroze Gandhi College, (Kanpur University), Rae Bareli on 5th May 1991 under the COHSSIP of UGC. The Seminar was inaugurated by Sri K.K. Agrawal, Regional Manager, Bank of Baroda, Regional Office, Rae Bareli. In his inaugural speech, he stressed the need for expansion of Management Education.

Prof. Jagdish Prakash of the Department of Commerce and Business Administration, University of Allahabad, in his keynote address, emphasised that the Management Education should not be isolated from the Commerce Education. He was of the opinion that the Management Education should be communicated through the regional languages too. He also highlighted the three areas of Functional Management i.e. Materials Management, Marketing Management and Personnel Management.

Prof. Nageshwar Rao, Director, Pt. Jawahar Lal Nehru Institute of Business Management & Dean Faculty of Management of Studies, Vikram University, Ujjain stressed the growing importance of Management Education. Prof. A.P.Gupta, Dean & Head, Faculty of Advanced Commerce & Bssiness Management, University of Kanpur, in his presidential address, focussed on the problems which could arise in permitting Management Education at College level.

Over twenty five delegates from different universities and educational institutions of India participated in the deliberations.

IGNOU Telecasts Programmes

To take higher education to more people in the remote corners of the country, the Indira Gandhi National Open University (IGNOU) has started telecasting its educational programmes on Television with effect from 20th May, 1991.

Initially, these programmes shall be of half an hour duration, thrice a week (Monday, Wednesday, Friday from 6.30 a.m. to 7.00 a.m.). These programmes shall supplement the printed course material already sent to students.

The University has around 1,12,000 students registered for its various programmes who receive counselling at 170 Study Centres, coordinated by 16 Regional Centres.

The University has a Production Unit at Tughlakabad and a Post Production Center in the Campus at the Maidan Garhi, both in Delhi.

News from UGC

Countrywide Classroom Programme

Between 1st June to 7th June, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

1.6.91

"A Talk With Prof. Holme - I"

"Modern Paintings & Salvador Dali"

"Irshad Panjatan : The Pantomime - I"

2.6.91

No Telecast

3.6.91

"C P Violation"

"Tips for Aspiring Entrepreneurs by Prof. Tom Canon"

4.6.91

"Preparing a Standard Solution"

"State of Nutrition in India"

5.6.91

"Solar Research - I"

"Jageshwar Shrines - II"

"Marine Parks"

6.6.91

"Remote Sensing (Space)"

"Shadow Puppet Making"

"Towards Better Spoken English - VI: Sentence, Accent & Rhythm"

7.6.91

"Norwegian Society : A View"

"Conserving America : The Rivers - I"

2nd Transmission

4.00 p.m. to 5.00 p.m.

1.6.91

"Understanding Cinema - XIV : Scene Analysis - I"

"Daughters of Eve - II"

2.6.91

No Telecast

3.6.91

"Voyager : The Grand Tour"

"Basic Principles of Accountancy - II"

"Permaculture - I"

4.6.91

"Chemical Clock Reactions - I"

"Drug Abuse"

"Medicine's New Vision - II : Computed Axial Tomography"

5.6.91

"Biogas : Wealth From Waste"

"Why History?"

"Vector Plasmids : Tools of Genetic Engineering"

6.6.91

"The Laser"

"Folklore and Folkloristics - III"

"On Poetry and Translation - III : Literary Translation"

7.6.91

"A Talk With Malar Shah"

"To Live or Not — A Talk on Suicide Prevention"

News from Abroad

Big Rise in Vocational Schools in China

The number of vocational and technical colleges has tripled in China over the past decade accounting for 48 per cent of the total student population, compared to only 21 per cent in 1980.

According to the education commission, China now has 16,000 vocational and technical institutions enrolling around six million students a year.

Vocational education has become accepted as an efficient and effective way of training large numbers of mixed ability students and workers to master the technical skills. The colleges' rapid development will change the view that the academic route through school and university is the only way to a worthwhile education and a rewarding, well-paid job.

China still has big problems, however, with the overall education level of the population. Only 80 per cent of children graduate from primary school, 50 per cent from junior middle school, and a mere 20 per cent of junior middle-school graduates complete senior middle or high school.

The majority of young people in rural areas take up work with no education and training. It is estimated that about 70 per cent of advanced methods cannot be applied effectively because of the low educational level of workers.

The state council has issued a series of new regulations to encourage the recruitment of people who have received at least some vocational training, hoping that this will also encourage more young people.

The Ministry of Labour has gone as far as ordering enterprises to recruit vocational trainees instead of raw hands, and has abolished the practice of children automatically receiving their parents' jobs when the latter retire. But it seems only a small percentage of even senior middle-school students are capable of passing vocational college examinations.

Augmenting German Higher Education

A new £730 million German government programme to boost higher education in its Eastern states has recently been announced at the first all-German conference of rectors in Frankfurt by Education Minister Rainer Ortleb.

The five-year package of measures will also target money to stem the brain drain from the East, create more than 100 new institutions and improve teaching and research standards and are to be jointly funded by the federal and state governments.

Professor Ortleb said the objectives were to renew the East German system where necessary and intensify co-operation between institutions at an all-German level, with a view to integrating into the European scientific community.

The government has suggested appointing 200 founder professors, along with deputy lecturers and assistant staff, to achieve renewal in subjects now labelled ideologically burdened or unsuitable for the new society – among them law, economics and teacher training.

Along with 250 "guest lecturers" from West Germany they will implement recommendations of the Science Council, which has advised on where the measures are needed.

South-South Fellowships

One of the aims of the Third World Academy of Science (TWAS) is to facilitate and promote mutual contacts between scientists in developing countries and to further relations between their scientific institutions.

In pursuance of this aim, the Academy awards fellowships to scientists of proven research ability to enable them to pursue research and/or undertake lectureship, by working with colleagues in developing countries other than their own.

Fellowships are awarded for a minimum period of one month and are only provided for visits within the Third World. They cover international travel to the host country and back. No provision is made for accompanying families.

In general, Visiting Fellows are expected to obtain the cost of their living expenses from local sources. However, a number of local grants are offered by the Argentine National Council for Scientific and Technical Research, the Brazilian National Council for Research, the Chilean Government, the Chinese Academy of Sciences, the Colombian Academy of Sciences, the Ghana Academy of Arts and Sciences, the Indian Ministry of Science and Technology, the Islamic Republic of Iran, the National Council for Science and Technology in Mexico, and the National Centre for Scientific Research in Vietnam to cover living expenses of visitors to scientific institutions in their respective countries.

The International Centre of Insect Physiology and Ecology (ICIPE) in Nairobi, Kenya, the Commissariat General a l' Energies Atomique in Kinshasa, Zaire, as well as the Institute Malgache de Recherches Appliquees (IMRA) and the Centre Regional de Recherche of WHO in Antananarivo, Madagascar, also cover living expenses for a number of visitors to their laboratories.

Applicants should be nationals of developing countries, normally with one research experience and working in universities or research institutes in developing countries.

Applications should be made on the Third World Academy of Sciences' form entitled "South-South Fellowships Scheme Application Form". They will be reviewed and evaluated by the host institutions and the Academy. Special consideration will be given to visits which can be expected to promote cooperation among scientists of the same region and yield substantial benefits to the visitors, their hosts and their respective scientific communities.

Applications will be considered by the Academy throughout the year. Applicants are requested, however, to give at least six months notice of the visits to allow for the completion of the review and evaluation procedure.

The programmes of the Third World Academy of Sciences (TWAS) are supported through funds provided by the Direzione Generale per la Cooperazione allo Sviluppo of the Italian Ministry of Foreign Affairs and the Canadian International Development Agency.

Further details can be obtained from the office of the Third World Academy of Sciences, C/o International Centre of Theoretical Physics (ICPT), P.O. Box 586, 34136Trieste, Italy..

TWAS/ICTP Regional Fellowships

The Third World Academy of Sciences (TWAS) and the International Centre for Theoretical Physics (ICTP) offer Regional Fellowships to promote research collaboration between scientists and scientific institutions in the Third World within the same geographical region, thereby improving relations between their scientific institutions.

In the framework of this programme, the Academy and the Centre award fellowships to young scientists from Third World Institutes federated to the ICTP, to enable them to pursue research and/or undertake lectureships, by working with colleagues in federated institutes in countries of the same region other than their own country.

This programme will cover international travel to the host country and back for one visitor from each Federated Institute per year, as well as the living expenses for up to 30 days, at the rates normally applicable in Trieste.

Selection of the visitor and arrangements for the visit should first be worked out by the two Federated Institutes concerned, before a request for support is made to the TWAS and the ICTP. TWAS and ICTP will consider requests throughout the year. Applicants are requested, however, to give at least three months, notice of visits whenever possible. Special consideration will be given to visits which can be expected to promote cooperation among scientists of the same geographical region and yield substantial benefits to their hosts and their respective scientific communities.

Further details can be obtained from the office of the Third World Academy of Sciences, C/o International Centre of Theoretical Physics (ICTP), PO Box 586, 34136, Trieste, Italy.

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Last date for receipt of filled-in applications **30 June 1991**

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secreta Officer to be Contac
July 21-26, 1991	Seventh International Meeting of University Administrators	Themes to be discussed are: (i) Standards of Professionalism in University Administration; (ii) International Cooperation; and (iii) The Entrepreneurial University	Conference of Registrars and Secretaries and Conference of University Administrators of the United Kingdom.	Dr. F.C Verschoo Chairman, Organis Committee, Congre Bureau, University Twent P.O. Box 2 7500 AE Enschede, The Netherlands
August 19-30 1991	International Course on Planning and Design of Pumping Works	To provide fundamental knowledge on pumping systems and comprehensive approach to planning and design of pumping works	Asian Institute of Technology, Thiland	Mr. Wiboon Boonyatharokul, Program Specialist, Continuing Educatio Center, Asian Institu of Technology, GPO Box 2754 Bangkok-10501 Thiland
Sept. 16-20. 1991	Regional Symposium on Educational Testing	Theme : Reforms and enhancements in educational testing system, test contents and formats in a country (or region)	The National Education Examination Authority (NEEA), People's Republic of China	Mr. Yang, Xuewai, Director, National Education Examinati Authority (NEEA), S Education Commissi 30 Yu Quan Road, Beijing 100039, The People's Republic of China
Sept. 17-18, 1991	Fourth Annual Conference of the Asian Association of Open Universities	To explore the need, desirability,practicability and relevance of face to face components in Distance Education	The Open University of Sri Lanka, Colombo, Sri Lanka	Ms. C Suriyapperum Organising Secretary AAOU Conference, Open University, Box 21, Nugegoda, Sri Lanka
December 14-16, 1991	International Conference on Man & Environment	To discuss issues concerning the future of man and preservation of the unique planet earth	Motilal Nehru Regional Engineering College, Allahabad	Dr. R.K. Srivastava Organising Secretary ICOMEN - 91, Department of Civ neering, Motilal Neh Regional Engineering College, Allahabad - 21

Welcome though Inadequate

Anju Vyas*

Educational Consultants Consortium, Delhi. All-India Directory of Voluntary Organisations Promoting Human Resource Development. 1991. Pp.iii + 104. Price not stated.

n order to foster greater ex- nge of experiences, ideas and in- mation among the like minded anizations and persons, it is a requisite to identify them. Dir- ories serve as one of the primary irces to serve this purpose.

The number of agencies in the untary sector working in the field of Human Resource Development is ever growing and due to the geographical vastness of the country, it is not always possible to know about them. The present directory aims to fill this gap. It contains names and addresses of non-government organizations in different states and union territories of India. Academic institutions viz. universities, colleges and other institutions of formal education, government funded agencies as well as semi-government organizations working in the fields of Human Resource Development are excluded. The member organizations of ECC (Educational Consultants Consortium) have been marked with an asterisk.

However, the Directory would have proved invaluable if more detailed information about the organizations, viz., the year of establishment, activities, projects, publications and contact persons, was also included. Since no subject index is given, it is often difficult to know only from the name of the organization, e.g. Jyoti Sangh, Dr.G.J.Patel Trust, the areas of their activities and interests. A subject index or arrangement under various aspects of Human Resource Development viz. Education, Culture, Youth, Women, Children, Rural Development, Health etc. would have increased the usefulness of the Directory for the researchers. It is hoped that while updating the Directory the compilers would like to consider the above mentioned suggestions.

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ibrarian, Centre for Women's velopment Studies, B-43, nchsheel Enclave; New Delhi-) 017.

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(Ministry of Human Resource Development, Department of Education, Government of India)

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NOTIFICATION

3rd May 1991

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avp 511(12)91

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THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

HUMANITIES

Philosophy

1. Chaubey, Lalit Kumar. **Shrimad Bhagvadgeetayam Sankhyayog vimarshah.** BHU. Dr S S Shastri, Reader and Head, Department of Vedic Darshan, Banaras Hindu University, Varanasi.

2. Khare, Pradeep Kumar. **Madhusudan Saraswati ke darshnik siddhanton ka sameekshatmak anusheelan.** Durgavati. Dr J P Shukla, Prof and Head, Department of Philosophy, Rani Durgavati Vishwavidyalaya, Jabalpur.

3. Natrajan, Tara. **The nature and structure of consciousness with special reference to Edmund Husserl in the light of advaita vedanta.** BHU. Prof N S S Raman, Department of Philosophy, Banaras Hindu University, Varanasi.

4. Pahari, Lakshmi Kanta. **Bhaktitatva sameeksha.** BHU. Dr G A Shastri, Department of Vedic Darshan, Banaras Hindu University, Varanasi.

Religion

1. Gupta, Meenakshi. **Concept of suffering in the early Budhist tradition.** Delhi.

2. Sharma, Lekh Ram. **Svayam-Bhu-Purana : Ek adhyayan.** Delhi.

Fine Arts

1. Pathak, Shubha. **Trisastishalka purushcharitra : Ek kalapurak adhyayan.** BHU. Dr M N P Tiwari, Reader, Department of History of Arts, Banaras Hindu University, Varanasi.

Drawing & Painting

1. Singhal, S K. **Jaisalmer kee schitra kashta pattikayen : Ek nandtik adhyayan.** Rajasthan. Dr C S Mehta, Assoc Prof, Department of Drawing and Painting, University of Rajasthan, Jaipur.

Music

1. Pandey, Poonam. **Vidik vangmay mein nritya ke sanket.** BHU. Dr (Mrs) Vimla Musalgaonkar, Lecturer, Department of Musicology, Banaras Hindu University, Varanasi.

2. Rajinder Kaur. **Guru Gobind Singh kee vani ka sangeetik mahatva.** Delhi.

Dance

1. Basu, Nupur. **Uday Shankar and his contribution to Indian dance.** Rabindra Bharati.

Language & Literature

English

1. Aggarwal, Neelam. **The development of the dramatic monologue in twentieth century American poetry with special reference to the works of Edgar Lee Masters, Ezra Pound and Thomas Stearns Eliot.** Delhi.

2. Geetha, S. **A study of man-God relationship in selected works of T S Eliot and Rabindranath Tagore.** Bharathidasan. Dr K Cheelappan, Prof and Head, Department of English, Bharathidasan

University, Tiruchirapalli

3. Naomi, S. **Fictional medium and the feminine concern : An approach to Markandaya, Jhabvala and Anita Desai.** Bharathidasan. Dr S Raman, Prof, Department of English, A V V M Sri Pushpam College. Poondi.

Sanskrit

1. Balwant Raj. **A literary and critical study of the dramas of Dr B R Swastry.** Jammu. Dr Mahesh Sharma, Reader, Department of Sanskrit, University of Jammu, Jammu.

2. Bhattacharya, Shivani. **Apadeviya nyayaprakasha vimarsha.** Visva-Bharati. Prof Biswanath Banerjee, Department of Sanskrit, Vidya-Bhavana, Visva-Bharati, Santiniketan.

3. Chacoara, Govind Ram. **Raghavgeetam, Ramgeetam : Sampadan evam sameekshan.** Rajasthan. Dr Prabhakar Shastri, Department of Sanskrit, University of Rajasthan, Jaipur.

4. Jain, Pushraj. **Mahatma Gandhi ke chintan mein Sanskrit-vangmaya ka yogdan.** Delhi.

5. Lakshminarayana Sarma, Guruprasada. **A critical study of Vaiyakarana Siddhanta Kaumudee.** Andhra.

6. Nirdosh Kumari. **A critical and comparative study of kavyapariksha.** Jammu. Dr Ram Pratap.

7. Pandey, Snehlata. **Chamatkar-Chandrika : Ek parisheelan.** BHU. Dr R P Dwivedi, Reader, Department of Hindi, Banaras HIndu University, Varanasi.

8. Pandya, V P. **A critical study of Kamadakiya Niti Sara and its contribution to the Ancient Indian politics.** Saurashtra. Dr V G Parikh.

9. Pratibha. **Samdev : Ek adhyayan.** Jammu. Dr Ram Pratap, Prof, Department of Sanskrit, University of Jammu, Jammu.

10. Sanadhya, Nirmala. **Shri Madan Pal rachit "Smriti Kaumidi" ka path nirdharan evam sameekshatmak adhyayan.** Rajasthan. Dr Prabhakar Shastri, Department of Sanskrit, University of Rajasthan, Jaipur.

11. Sesha Kumar, Amrutavakkula. **Paribhasas in Sanskrit grammar : A study.** Andhra.

12. Sharma, Sunita. **Madhusudan Saraswati virchit Anand Mandakini : Sampadan evam sameekshan.** Rajasthan. Dr S S Tripathi, Assoc Prof, Department of Sanskrit, University of Rajasthan, Jaipur.

13. Sharma, Vinod Bihari. **Jaipur kee vedadhyayan ko den, 1699 isvi se shodh prabhandh prastut prayant.** Rajasthan. Dr Prabhakar Shastri, Department of Sanskrit, University of Rajasthan, Jaipur.

Punjabi

1. Anand, Tarlochan Kaur. **Guru bani vich gyan da sankalp.** Punjabi. Dr Prem Parkash Singh. Prof (Retd), Department of Punjabi, Punjabi University, Patiala and Dr Wazir Singh, Department of Religious Studies, Punjabi University, Patiala.

2. Gurmit Singh. **Punjabi natakan vich lok kathavan da punra sirjan, 1900-1986 isvi tak.** Punjabi. Dr Tarlok Singh Anand, Prof, Department of Correspondence Courses, Punjabi University, Patiala.

3. Harbhajan Kaur. **1900-1950 isvi tak dee Punjabi dharmik vartak da alochnatmak adhyayan.** Punjabi. Dr Kuldip Singh Dheer, Department of Punjabi, Punjabi University, Patiala.

4. Malkiat Singh. **Adhunik Punjabi kavita vich rahasyavadi ritti, 1900-1975.** Punjabi. Dr Prem Prakash Singh, Prof Department of Punjabi, Punjabi University, Patiala

Hindi

1. Dwivedi, Vibha. **Acharya Ramchandra Shukla kee sam sha ke pragatisheel ayam.** Patel. Dr S K Mishra, Prof, Depar of Hindi, Sardar Patel University, Vallabh Vidyanagar.

2. Geetha, A. **Elements of romanticism in the new poetr Hindi and Malayalam.** CUST. Dr P V Vijayan, Prof, Depar of Hindi, Cochin University of Science and Technology, Cochi

3. Hetawal, Kishore. **Malwanchal mein Hindi patrakarita anusheelan.** Devi Ahilya. Prof Ganesh Dutt Tripathi, Departm of Hindi, Government Arts and Commerce College, Indore.

4. Johri, Ravindranath. **Gwal : Kavi aur Acharya.** Delh

5. Kumbar, Basappa Mahantappa. **Kavi Dr Rameshwar. Khandelawal Tarun : Vishleshan aur mulyankan.** Karnatak C Chulkimath, Reader, Postgraduate, Department of Studies Hindi, Karnatak University, Dharwad.

6. Manpreet Kaur. **Patiala Darbar ke kavi Basant Singh Rit : Anusandhanatmak adhyayan, Basant Satsai tatha Sisbavan niti ke sandarbh mein.** Punjabi. Dr Manmohan Sehgal, Pr Department of Hindi, Punjabi University, Patiala.

7. Md. Shaik Hussain. **Bharatendu kaleen samaj sudharva kavi.** Osmania.

8. Misra, Shashi Bala. **Yashpal ke katha sahitya mein na purush sambandh.** BHU. Dr S S Shukla, Reader, Department Hindi, Banaras Hindu University, Varanasi.

9. Rajdan, Raj Kumari. **Acharya Hazari Prasad Dwivedi upanyason mein itihas aur romance.** H P.

10. Ramteke, Vijay A Laxmi Narayan. **Dharamvir Bharati sahitya mein prapt jeevan sidhanton ka tatvik adhyayan.** Nagpu Dr D S Mishra, P W S College, Nagpur.

11. Sahu, Govind Chandra. **Maithilisharan Gupta ke kavy mein geetitava.** Berhampur. Dr Sudhansu Kumar Nayak, Hea Department of Hindi, Ramadevi Women's College, Bhubaneswar

12. Sankhyadhar, Chhaya. **Bhartinandan ka sahitya Sanskritik mulyon ka vivechan.** Rajasthan. Dr Ramkrishan Sha ma, R E S, Saraswati Sadan, Mohalla Kodiyad, Bharatpur.

13. Sharma, Neena. **Adhunik Hindi natakon mein lok naty ke prabhav ka anusheelan.** Patel. Dr Sanatkumar Vyas, Reade Department of Hindi, Sardar Patel University, Vallabh Vidyanagar

14. Sharma, Ram Nivas. **Acharya Brajbal : Vyaktitva aur kriti va.** Rajasthan. Dr Ram Krishna Sharma, Department of Hindi M J College, Bharatpur.

15. Sharma, Renu. **Swatantrayottar Hindi upanyas sahitya mein achhoot varga.** Rajasthan. Dr (Mrs) Kalawati Prakash, Asst Prof, Department of Hindi, University of Rajasthan, Jaipur.

16. Singh, Kailash Prakash. **Rangey Radhav ke upanyason mein pragatisheel chetna.** Jamia. Dr Abdul Bismillah, Department Hindi, Jamia Millia Islamia, New Delhi.

17. Singh, Ram Gopal. **Hindi vakya rachana per Angrezi prabhav, 1947 ke bad.** Delhi.

18. Singh, Veena Rani. **Nai kavita ka vikas -kram va Dhumil** BHU. Dr Ibha Gupta, Lecturer, Department of Hindi, Mahavidyalaya, Varanasi.

). Sinha, Vidya. **Hindi ke anchalik upanyason mein sthan aur avhar.** Delhi.

). Vijay Kumar. **Hindi upanyas aur Bharatiya swantantrata ram.** Osmania.

1. Yadav, Shiv Bachan. **Premchand kee kahaniyon ka varg-itra aur unki samajik pristhabhumi.** BHU. Dr Ibha Gupta, ırer, Department of Hindi, Mahila Mahavidyalaya, Varanasi.

. Gupta, Hans Raj. **Urdu mein safar name ka aagaaj o irtiqa.** nu. Dr Zahur-Ud-Din.

. Mazhar Ahmed. **Urdu shairi mein Tanz-o-Mizah, 1947 to** Delhi.

. Md. Ayub Sabir. **Urdu kee ishqi masnaviyon ke kirdar.** r. Dr A Wasey, Prof, Department of Urdu, Bihar University, affarpur.

. Mohd. Khaleel Ahmed. **Urdu shairi mein talimee tasaw-ıi.** Gulbarga. Dr Razak Farooky, Prof and Chairman, Depart-t of Urdu, Gulbarga University, Gulbarga.

. Mohd. Rafi. **Shuarai Malerkotla kee abadi den.** Punjabi. Dr kh Zeenat Ulah, Department of Urdu and Persian, Navab Sher ı Institute of Advance Studies, Malerkotla.

. Quraishi, Shareef Ahmad. **Lexicon of Fasana-Azad and its o-linguistic study.** JNU. Dr N A Khan, Centre of Indian Lan-ges, Jawaharlal Nehru University, New Delhi.

. Waheed, Mohammad Abdul. **Urdu zuban-o-adab per Arabi ısarat.** Nagpur. Dr M R Khan Mansha, 11 Starky Town, ıkapur, Nagpur.

gali

1. Gangopadhyay, Arati. **Madhyajuger Bangla sahitye premer rup.** Calcutta.

2. Khan, Krishna Sadhu. **Bangla lokosahitya-o-lokos a skritir kshetra Ballad ba gitikar prayoggata-o-rupritigata satwer mulyayan.** Rabindra Bharati.

3. Md. Nurul Islam. **Alacup : Murshidabad Jela-o-sannihita nna anchaler ekti janapriya lokonatyer dhara.** Rabindra ırati.

ya

1. Patnaik, Ashok Kumar. **Sarala Mahabharatra upakatha.** hampur. Dr Sudarsana Acharya, Prof, Department of Oriya, hampur University, Berhampur.

2. Sahoo, Subas Chandra. **Oriya natyadarsa bibartana-o-chitrya : Kathabastu.** Visva-Bharati. Dr N B Harichandan, partment of Oriya, Visva-Bharati, Santiniketan.

sian

1. Akhtar, Nasim. **Kulliyat-i-Sai : Tadveen wa tehshia mae gaddama.** Jamia. Prof S Azmi, Head, Department of Persian, nia Millia Islamia, New Delhi.

mil

1. Mangaiarkarasi, S. **Thirumangai Aazhvarin Elakiakkolgai, livam-porunmai Velieedu.** Bharathidasan. Dr M Ramalingam, Prof and Head, Department of Tamil, Bharathidasan University, Tiruchirapalli.

2. Manivannan, R. **Parimela Zhager uraile elakhiak kot-paadugal.** Bharathidasan. Dr N Rajagopalan, Reader, Department of Tamil, Bharathidasan University, Tiruchirapalli.

3. Sivakkannu, M. **Yezhupadugalill Thamizh Punai kathaigal.** Bharathidasan. Dr M Ramalingam, Prof and Head, Department of Tamil, Bharathidasan University, Tiruchirapalli.

4. Sivalingam, R. **Bharathidasan paadalgalill pazhanthamizh elakhiach chelvakku.** Bharathidasan. Dr K P Ganesan, Senior Lecturer, Department of Tamil, Periyar EVR College, Tiruchy.

Kannada

1. Huggi, Pundalikappa Magundappa. **Shadaksharadeva : A study.** Karnatak. Dr B C Javali, Reader (Retd), Tejaswi, Kalyananagar, Dharwad.

Telugu

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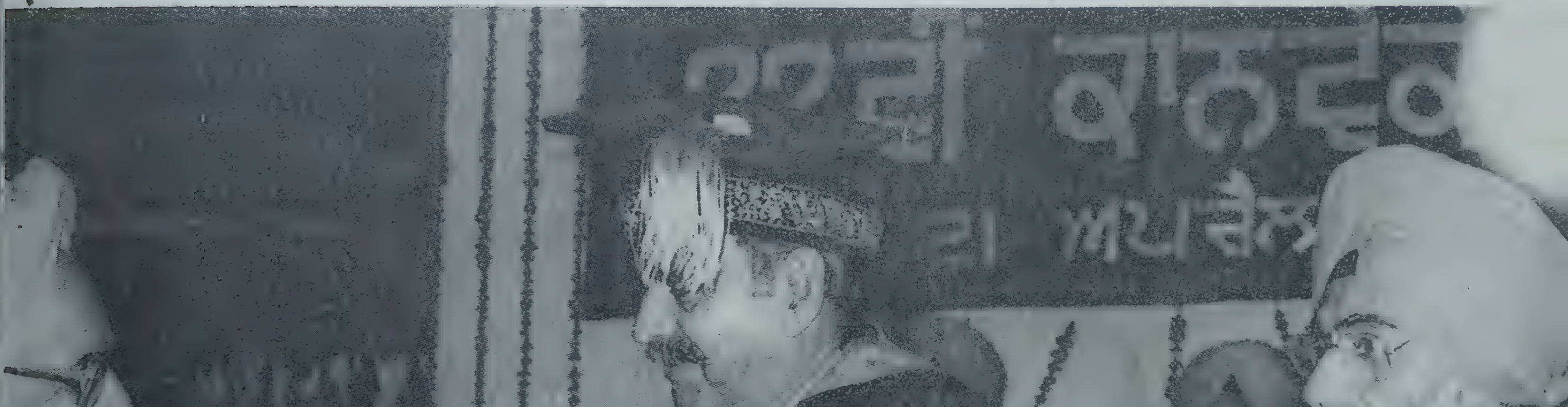

Dr. Manmohan Singh, Chairman, UGC, who delivered the convocation address at the Punjabi University, receiving an honorary degree of D.Sc. (Honoris Causa) from Gen. O.P. Malhotra, Governor of Punjab and Chancellor of the University. Dr. H.K. Manmohan Singh, Vice-Chancellor, is on the extreme right.

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THE COMMUNITY COLLEGE

S.K.Gandhe*

Genesis

"Community College" is essentially an American concept. American higher education is noteworthy in the educational history of the world because of the continued expansion of opportunity and availability of education through the post-secondary levels. In many ways this expansion is best characterised by the creation and development of the American community college. Although other countries have developed in the last couple of decades similar commitments to continued education of their citizens, there is reason to believe that many of the world's educational systems have taken the American community college as a model.

We in India are familiar with the term junior college. In the pre 10+2+3 era, a junior college was identified as the Intermediate College (popularly known as Inter College) which provided tuition for the first two years of the four-year degree course and admitted students after the secondary school level. Even in the present day context, the term junior college is often used to indicate the +2 stage. An impression is sometimes created that our junior college is synonymous of the American community college. Nothing can be farther from the truth. The American community college is an entirely different institution philosophically, operationally and academically. While the Indian junior college serves as a link between the secondary level education, and a university degree in the sphere of liberal education the community college of America is basically an institute of technical and vocational education though it has transfer programmes too. Interestingly the term junior college is not unknown in America. I believe the American Junior college is an older institution having had its birth in the middle of the last century. The junior college designation tends to emphasize associate degree works or transfer programmes. The community college got momentum in the last 30 years or so. The community college is generally more vitally involved in the community than the older junior college. The sharp distinction between the two terms in the American context is the degree of involvement in the community. Another distinction is sometimes made to identify the junior college with private management and the community college with public management. Nevertheless, it is my experience that the two terms are often used interchangeably in the USA.

Nor is it correct to link the community college with rural area. Perhaps the most dramatic and crucial test of the community college idea is its capacity to respond to the needs of an urban centre. Theoretically the institution is made to order for the inner city. Both the academically talented and the disadvantaged urban dwellers can find programmes to fit their needs in the community college. The community colleges in the leading urban centres of America (New York, Chicago, Los Angeles, Dallas, St. Louis, and Miami) are experimenting with weekend colleges, television colleges, storefront counselling centres and classroom, multi-campus operations to provide the much needed service to the urban dweller.

**Registrar, Goa University, Bambolim, P.O. Santa Cruz, Goa-403 005.*

What is a Community College ?

In the American system of education, a student completing the secondary school level (or High School graduation as it is often called) can straightaway join the university undergraduate courses of study. He takes 12 years to complete the High School and another 4 years to obtain the first University degree. It is obvious that the community college is not a link between the secondary level and the University level studies. Then what is it?

The community college is an institution of higher education that provides in partnership with its community, programmes and services for the total community population. It thereby serves as a cultural centre and a focal point of intellectual life in its area. The community services consist of educational, cultural and recreational programmes; the last named being outside of the regularly scheduled day and evening college classes. It is implicit in this definition of a community college that it provides both formal and informal education.

The community college is neither a school nor a university. It has an identity of its own and a unique role to play. It fills an educational gap left by high schools and universities. It is a community centred institution with the primary purpose of providing service to the community.

Usually the creation of the local community or area, the community college is most often governed by a board of local citizens and operated within a local district. It is an institution of higher education and can draw upon the advanced resources of its staff. It is an institution without restrictive traditions, and is therefore free to tailor its programmes to local needs and conditions.

In order that the community college is able to perform its community services effectively, the campus of the college virtually gets extended to the entire district; the programme gets designed in such a way that not only the community is brought to the college, but the college also goes to the community; the educational programme of the college jumps the limits of classroom instructions; the college serves as a catalyst in community development and self-improvement; the programme does not duplicate the existing services in the community or displace the existing institutions unless the same are not to the liking or satisfaction of the community.

Scope of Activities

The scope of activities of a community college can be described as follows :

Educational Services

Though a community college is more than a
tional institution, education nevertheless form
important plank. It is a two year college offerin
spectrum of educational service to the comm
community college curriculum can be classif
several categories, and the time required for com
each may vary from a few days to two years. It is
thing that many of the students take much lo
complete their courses of study in the commu
leges because of their involvement in other a
(jobs mostly) simultaneously.

Community colleges offer (a) courses organis
a two-year format that prepare people for s
employment in a defined job or job cluster; (b) c
that prepare people for transfer to the junior le-
baccalaureate degree programme of a four-ye
lege/university course of study; (c) courses of g
nature which combine the employment objective
as the transfer objective; (d) small courses ai
upgrading individual skills, create added compe
or otherwise provide improvement of personal
(e) course in remedial, corrective and impro
education; (f) non-credit courses, workshops o
ferences which provide a variety of lifelong educa
opportunities to local citizens; and (g) courses to
the specific needs of people who have special pro
handicaps or other impairments. Not all comm
colleges offer all these courses. Many limit their
ing to a selected few. In multi-location institu
concentration in one or more areas may be limite
specific location and are not available in other loc
of the same institution.

In-service Training

In-service training is the second type of educa
service provided by the community colleges. The
obsolescence in elements of technical and profes
training, plus the increasing rate of innovati
methods, materials and products has created u
career problems. The business and industrial
government departments and other institutions
area of operation of the community college turn to
upgradation of skills of their personnel. These i
vice training programmes have become excee
popular among the local trade, commerce and ind
and a money-spinner for the college. The courses
this programme are specially designed to serv
needs of the clients time and expense-wise.

Counselling

A third kind of educational service provided b
community college is counselling. Educationa

tional guidance is provided through this ramme to members of the community who are not ver have been regular students of the college. This ce has proved very useful in dealing with the lems of re-training and dropouts. Guidance es are created in the college to meet the needs of rent types of people. Separate centres are some- ; provided to serve the needs of the women. In- ual counselling is provided by expert and trained . Group counselling and group guidance is ded by arranging workshops, lectures, discussions the representatives of business, industry and ssions.

an Resource Development

fourth educational service provided by the com- ity college is in the field of human resource develop- . The objective of the programme is to tap unused power and experience. The services under this ramme range from basic education for the func- ally illiterate to special programmes for senior ens. Some community colleges, besides providing ation and training under this programme, also help b-placements of the persons trained. Many disad- aged young people who received training in office s, secretarial skills, drafting, business machine irs etc. have been gainfully employed with the help e community colleges concerned.

io and Television Service

fifth kind of educational service provided by the munity colleges is the production of radio and vision programmes which will have educative effect he local community or serve its educational needs. e community colleges also operate "television col- s". Credits completed through television colleges e home viewers are accepted by other colleges and ersities.

nmunity Development

he role of a community college in community elopment is one of leadership and guidance. The ege makes available its resources of knowledge and s but decisions are left to the residents. It is essen- y a programme to help the community to help itself. community college may also provide the means of rdination and cooperation between government ncies, business, industry and other institutions. The nmunity colleges also provide skills, techniques and hodology for studies, surveys polls etc. which are ispensable means of the community to become are of itself. A programme for dissemination of in- mation about local government planning, etc. has ome popular in many community college districts.

Cultural and Recreational Activities

Many community colleges offer public events appealing to the community and to the college students alike. Among them are public-affairs forums, lectures, concerts, dramas, recitals and films. Art exhibitions, fine-arts and music festivals participated by the college students as well as the local residents are also arranged by many community colleges. Annual/periodic community balls, sports competitions etc. are also organised by many community colleges for the benefit of the local community.

In short, the scope of activities of the American community colleges is very wide and deep. They can be a dynamic force in the life of citizens and their communities. The community college has scope to develop aggressive multi-service out-reach programmes designed to extend its campus to the entire college district. It can place much more emphasis on education for all age-levels and age-groups. It can place greater emphasis on interaction with its community. It can even attempt to solve some of the social and political problems of the area.

Open Access Policy

Community colleges have been philosophically committed to the universal access, or open door policy. In fact that has been the greatest achievement of the community college. The case for open access to higher education is a relatively simple one. American democracy is founded on the belief that all people have the right and deserve the opportunity to achieve to the limits of their ability. Advocates of open access reject the notion that only the rich and well born, the highly talented can profit from higher education. Maintaining open access is one commitment that the community college must honour to those millions of people for which it represents the only hope for higher education. There is no doubt that an open door policy cannot be successful unless it is accompanied by other relevant policies such as no or low tuition, local (community) orientation, programme diversity, and lifelong educational opportunity. For the community college to remain true to its mission, it must mean that the door will not be closed to those segments of society that the community college is committed to serving.

One question that is apt to be, and is often, asked is whether the open door policy is conducive to maintenance of quality in education. Quality is assumed to be measured by the degree of improvement a person achieves as well as his or her attainment of competence in defined areas. Quality is not accomplished through stringent admission requirements that eliminate certain portions of the population. The community colleges must provide admission to persons who may not be accepted in other institutions. Emphasis is placed upon people having an opportunity to meet their own needs and to achieve their own improvement. Unless the less privileged and less qualified students who are members of the lower socio-economic groups, working adults or minorities are provided opportunity to improve their skills and knowledge and thus widen their employment/service areas, the very purpose of the community college will be defeated. The community college is a mission at whose very heart is open access.

Comprehensiveness and Age

Once the concept of open access policy is accepted it follows that the community college programme must be most comprehensive. Any community would comprise people from a variety of socio- economic strata who are bound to have widely differing tastes, likings and dislikings, aptitudes, preferences, ambitions and all that. The community colleges should try to cater to the educational needs of a large majority of them if not all. In practical terms, the community college must maintain a comprehensive programme, for the open access institution that offers no or few choices is a contradiction. To lead the students to believe that they are being given a chance for an education beyond high school, when in fact their choices consist of programmes for which they are not prepared, is opposed to the basic philosophy of open access. Only a highly comprehensive programme of education can be the means of achieving open access. Moreover, as an institution of the community service the community college has also to cater to the needs socially or economically disadvantaged or even the physically handicapped which calls for a special tailoring of some of its programmes. In short, the community college must offer a wide range of academic, vocational and avocational programmes and also provide non-credit remedial as well as adult education programmes. The guiding principle being what the community needs has to be provided.

In follows from what is stated above that there cannot be age restrictions on the students admitted to be community college. According to rough statistics there are more than 50 lakh students studying in more than 1300 community colleges in America. These students are demographically different from the typical college students. The median age of students is 29, which indicates that these are relatively older students. The age range may extend from 14 to 90 years in a single institution. There are more women than men. There are more part time than full-time enrolled and more non-credit than credit students. The community college students belong to all phases of their community life. Their m
for attending college are varied and unpredic
terestingly many senior citizens also attend
munity college. This "retransfer" programme
opportunities to persons to pursue interes
basic liking, but which they could not do in the
days or active career. Thus a scientist may c
study religious philosophy; an economist m
music; a successful sports teacher may come
cooking, and the like. The extremely comple
growing industrial economy of America calls f
five career changes in the life-time of even
educated people and many of them may feel the
going back to the college to acquire new
knowledge.

Administration and Financing

The community college is an autonomous in
having full liberty to decide its course curric
award its degrees, diplomas and certificates.
the community colleges award the "Associate"
like A.A. (Associate in Arts), A.Sc (Asso
Science) etc. These degrees have come to be a
by the trade, commerce and industry in the USA
as the Federal and State governments of that
The community colleges also award a large nu
diplomas and certificates which are also accepte
employers of the state or even of the neigh
states. Graduates from reputed community
can get employment anywhere in the country.

The community college is governed by a B
Governors headed by the President and som
Presidents. The President is generally an admin
of proven ability and on him depends by and l
success of the institution. The Board compri
leaders of local trade, commerce and indust
being the potential employers are in a better pos
guide the community colleges in developing
which are of great demand in the employment
The State Governor may nominate his representa
the Board — this may (and often does) be a p

TO OUR READERS

**Knowledgeable and perceptive as th
are, our contributors must not nece
sarily be allowed to have the last wor
It is for you, the readers, to join issu
with them. Our columns are as muc
open to you as to our contributors
Your communications should, ho
ever, be brief and to the point.**

ment. Some senior academicians are also ed on the Board.

State does not play a direct role in the ad- tion of the community colleges. But, in many America, Departments of Community colleges en set up in the last two or three decades to oordinated and planned growth and expansion ommunity college movement. State-level plan- been generally accepted to be the state respon- Several states (Florida, Virginia, Mississipi, irginia, Maryland, New York, North Carolina, New Jersey, Oklahoma, Indiana, Washington — some) led the way in the development of state- ans for community colleges. These statewide arified the mission statements as well as the role ous types of institutions, articulation between of education, assignment of responsibility, e allocation, provisions for growth and expan- he institutions, programmes and opportunities.

ncing of community colleges has been a major n in the continuing development of these institu- ach of the 50 states has developed unique finan- cedures. These may, however, be classified into neral types. (1) States in which institutions te with the legislature for budget appropriations; es using an F.T.E. (full-time equivalent) formula n a set amount per full-time student; (3) States ting to equalize by providing a combination of d local funding; and (4) States basing allocations in part upon the cost differentials of various mmes. Earlier local taxes contributed to a con- le extent the community college funds. How- major development in the recent years has been easing dependence upon state sources with cor- ding decrease in local tax sources. Public con- ns, tuition fees, income from in-service training s, short duration workshops, supporting mmes for part-time learners, older learners, s who take non-credit courses etc. also con- to the community college funds. Federal ment contribution is generally project-specific. community colleges depend to the extent of 90% rtion varies widely from state to state, and college ge within a state) on State's financial support; on her hand, private community colleges have a contribution from tuition fees, donations and -related incomes. The source-wise quantum of ing differs so widely from institution to institution generalised pattern is not warranted.

ty

us conclude this paper by making a brief refer- o the type of faculty in the community college. etencies required of community college faculty are uniquely different from those required for high school or traditional college faculty. A large variety of competence is the distinguishing feature of the community college faculty. Thus a community college needs faculty (a) who can teach courses directly related to occupations, (b) who are prepared to teach general education courses, (c) who are expected to teach courses which are offered in the freshman and sophomore years in the 4-year degree colleges, (d) who are specially competent in learning resources and course organisation, (e) who are specially prepared to work with older students, or handicapped students or other disadvantaged students, and (f) who are prepared for counselling and a variety of student development programmes.

Conclusion

In India the community college can be an additional type of educational institution which can meet the growing needs of vocational education at higher level, and, at the same time, satisfy the social craze for university degrees and open up channels for higher scholastic pursuits. It can also provide a vertical link for vocationalized schools, high schools, higher secondary schools, other diploma/certificate institutions. If the "open door" policy could be successfully adopted which of course depends on resources — the problem of wastage of professional skills can be reduced. A community college can serve as a very useful institution for the development of middle level manpower resources in the growing trade and industry in the country.

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RESEARCH AND EXTENSION

The Role of Indian Universities

G.B.K.Hooja*

Leadership Role

When Bankim Chnadra sang his celebrated song *'Vande Mataram'* (I salute the Mother) about the potential strength of India, he made a pointed reference to 30 crores of throats singing the glories of Mother India and 60 crores of arms ready to protect her Honour. Now these figures have swelled up to 85 and 170 crores respectively. But mere numbers do not add up to strength. The real strength of a nation-state is a function of the power and the skills of the citizens inhabiting it. In the empowerment of Indian masses, therefore, lies India's strength. And the role of the institutions of higher education, which are the reservoirs of knowledge and centres of human resource development, in this regard, is obvious.

During my encounters with the teachers and workers engaged in the National Literacy Mission, I have often observed that the linkage and contact of the university teachers with lower echelons in the educational system is minimal.

It is the realization of this fact which led the Ramamurti Committee, while proposing the establishment of educational complexes working in coordination with Panchayati Raj institutions and local development and social welfare agencies (voluntary or governmental), to recommend that the regional universities should affiliate themselves with the complexes and help in the process of educational and environmental development, through their faculty, students and technical resources.

Thanks to the inspiration received from a galaxy of illustrious teachers, formal and informal, who adorned the Indian firmament during the bygone centry, Indians attained their independence in 1947, though not without a blood bath, unprecedented in world history. By way of illustration, mention may be made of Raja Ram Mohan Roy, Dayananda Saraswati, Rabindra Nath Tagore, Swami Shraddhananda, Vivekananda, Hans Raj, Sadhu Vaswani, Mahtma Gandhi, Madan Mohan Malaviya, Aurobindo Ghose, Zakir Hussain, Maulana Azad. Through the teachings of these enlightened philosopher activists the prostrate Indian natu its backbone and stood up in definance to chal mightiest empire of modern times. In the wake pendence of India, the stranglehold of imperialis removed from a vast part of the earth. The last ve are in retreat in Africa, but the threat of eco imperialism, in the shape of multinational compan now looming on the horizon. It is for the pund higher education to work out solutions for the p social and politico-economic questions facing present generation.

1990 shall be remembered in Indian history a year of curfews and self-immolations. Considering can the social scientists sit back in their protected cushioned chairs with an easy conscience and wai ostriches for the storm to blow over? The causes o blowing storm and the threatened deluge need t investigated thoroughly, scientifically impassion and rationally; and remedial measures and alterna based on these researches need to be presented be the national leaders and the intelligentsia.

In doing so, the endeavours of the scholars an searchers in the disciplines of history, economics, p cal science, psychology, science of behaviour, forming arts, sports, extension education and m technology shall be of paramount importance.

In a democracy, every citizen is responsible for state of affairs of a nation, and more so the enlighte ones. One 500 millionth of sovereignty resides in one of us under the Constitution of India. Let enlightened teachers of India assume the rol Chanakyas and guide the thousands of Chandragu who wield levers of power across this great and hist cal land so that the power vested in them is not abu misused or disused.

If the university system has not to be relegated t limbo of irrelevance, note may well be taken of urgent national requirement.

Policy Analysis

A nation-state is understandably jealous of guar its sovereignty and has, therefore, to keep abreast of rival predatory states, both, by way of maintaining c parable standards of martial strength as well as for dependable, diplomatic alliapces. While the first

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Former Vice-Chancellor, Rajasthan Agricultural University and Gurukul Kangri Vishwa Vidyalaya, A-15-A, Vijei Path, Tilak Nagar, Jaipur 302004 quirement depends upon acquiring the latest technical know-how and do-how, and maintaining the national morale and chohesion, the second depends upon a realistic appreciation of the fluctuating socio-political forces operating in the world broadly and particularly in the neighbouring countries, so as to enunciate a foreign policy which protects national interests. And these tasks are best performed in the laboratories and libraries as well as the classrooms and playfields of the universities. Hence the necessity of providing adequate facilities for research, teaching and extension to the scholars and practitioners engaged in the higher educational system to enable them to undertake continuous and intensive researches in their disciplines, and on that basis to devise teaching curricula and to formulate policies and plans of action short-term and long-term – for the guidance of the government leaders and opinion-makers.

Motivation

Apart from the availability of adequate physical facilities, a high degree of *motivation*, on the part of the researchers and practitioners of higher education is a necessary *sine qua non* for reasonable success. As it is, the absence of motivation may lead to non-use of the available facilities. In the system of education, obtaining in Ancient India, emphasis was laid on *Vrata Pradhaan* Education (education based on vows). A student was made conscious of three debts which he owed, respectively, to Nature, to his Teachers and to Society. These were termed as *Deva Rin, Rishi Rin* and *Pitri Rin*.

Given a high degree of motivation, notable success may be achieved even though sophisticated physical facilities may be lacking. See the achievements of J.C. Bose, P.C. Ray, C.V. Raman or Ramanujan in the field of science, and the accomplishments of Tagore, Shraddhananda, Hans Raj, Malaviyaji or Zakir Hussain in the field of education.

Thus the managers of higher education would do well to engender amongst the educands a high degree of motivation and dedication as a basic prerequisite.

Optimum Utilization of Resources

The developing countries basically suffer from scarcity of resources and, therefore, the under-utilization of these scare resources is a criminal waste bordering on a national sin.

At it is, the under-utilization and misutilization of expensive educational facilities, and often of staff as well, is a common phenomenon in the Indian educational scenario. For example, the colleges traditionally hold classes in the mornings and their facilities are shut down for the remainder of the day, which inevitably raises the per capita cost of education. It has become a normal feature to see the universities as well as the colleges shut down on one pretext or the other, for long periods during what is supposed to be the academic session. But the low rate of utilization of the expensive educational facilities, on both, daily and year round basis, which is hard to justify under conditions of serious resource shortages and educational deprivation, has come to attain the status of normalcy and hardly shocks any one.

In this perspective, the practice of long summer vacations, as a contributory factor leading to waste, may also be reviewed. As observed by Coombs and Hallak, the whole matter of academic schedules and out-of-hours use of educational facilities and better space utilisation merits close scrutiny by cost analysis and educational managers in virtually all countries. Changes here could often greatly improve the cost for both, formal and non-formal education, as well as provide laboratory, library, classroom and sports facilities for more people.

The first step which may, therefore, be taken is to ensure that our institutes of higher learning and their laboratories, libraries, classrooms and play fields function for atleast 300 days in a year and that those who cannot meet this requirement may as well be black listed and struck off the register, for obviously no developing country can afford the luxury of seeing its institutes of higher education not functioning for the better part of a year.

Extension

The next responsibility lying on the shoulders of the managers of higher education in developing countries is to see that the knowledge and information generated by them is disseminated across the country through the medium of local languages, including the electronic media, for due absorption and assimilation by the people at large, so that the common man (and woman) develops a scientific and rational approach to the problems facing him.

In this, a leaf may be taken from the book of the agricultural universities established in India in the 60's, following the pattern of the Land Grant Colleges of the USA, based on the Morril Act. As is known, originally the Indian universities, in pursuit of Wood's despatch of 1853, undertook the task of teaching English and other subjects through the medium of English, with the sole object of building up cadres of subordinate Indian administrators who would serve as a link between the British rulers and the Indian masses by acting as interpreters as well as junior officials in the Imperial and the State services. The universities of Calcutta, Madras and Bombay which came into existence, in implementation of this policy in 1857, were allowed to affiliate

(Continued on page 9)

The Viva Voce

Qaiser Zoha Alam*

An acquaintance of mine, a Ph.D. examinee, once told me that his 'Viva Voce' test was going to be arranged soon. That shows, in a way, that not much significance is attached to this part of the Ph.D. exercise. Once when I was conducting a Viva in all seriousness I found the internal examiner surreptitiously winking at me. He apparently wanted me to let the candidate go. On another occasion, when we were making arrangements to start the Viva and the candidate was not yet asked to come in, the internal delivered a pretty long speech on the difficulties of the candidate and the candidate's family. Once again, the internal wanted to help the candidate and let him get away easily without much probe. I was once present at the Viva Voce examination of the student of a friend of mine who teaches another language. When the candidate was in some difficulty my friend shouted in a fullthroated style, '*Chai Laoji*' and began talking about other things in a jovial style. As a result, the Viva quickly drifted into the usual '*Bhai Wah*' — tea, refreshment, the university cheque and the return reservation. In a Viva Voce test there are two parties one of which is desirous of getting what the other has to offer. It goes without saying that the seeker must justify that he is the right person to be given what he seeks.

The Viva Voce test is a significant 'episode' and a legitimate exercise, a kind of search process to examine the candidate's ability, scholarship, insight and imagination in general and his mastery of the topic of his research, his research design and the planning and execution of his thesis in particular. According to the Random House Dictionary of the English Language, research is a 'diligent and systematic inquiry or investigation into a subject in order to discover or revise facts, theories, applications ...'. In addition to the candidate's command over his thesis, some other qualities to be judged are mental alertness, critical power, power of assimilation, clear and logical exposition, balance of judgment, variety and depth of interest and intellectual and moral integrity. It would not be out of place to quote from the description of the Union Public Service Commission personality tests for the I.A.S. etc. — 'The technique of the interview is not that of the strict cross examination but of a natural thought directed and purposive conversation which is intended to reveal the mental qualities of the candidate.

The examiner must be specific and must choose his words carefully if he wants to be an effective ques and if he wants to evoke a congruent response. In if the answer in 'no', maybe the question was ambiguous or poorly framed. The questions hig abstraction ladder (Q^v = Vague questions) e responses that are vague and general in much the way (R^v = Vague responses). The question stated specificity, one that defies a simple and vague resp (Q^s = Specific question), often receives a 'thin response (R^t). What is required, therefore, is that t who serve as examiners should make themse seriously and adequately ready for the Viva. Buc suggestions tendered in 1978 in connection with c mon errors in questioning are relevant even to Bucalo wanted the examiners to i) avoid 'yes' and questions, ii) avoid leading questions that suggest proper answers, and iii) avoid unrelated questi The examiners should preferably prepare relevant specific questions in advance.

Sometimes an examiner is given a very short tim evaluate a thesis. In cases of this nature it would difficult for the examiner to be properly ready for Viva. Once when I went to a university outside Bih conduct the Viva examination, I was given ano thesis and requested to hold the Viva on the new th the next day. There are occasions when the natur the expertise of the examiner is also not taken account. I am aware of cases when the theses belon to a certain field, the guide to another field and external examiner who came for the Viva to a third fi We have also heard of the external coming by air returning by the same flight and the Viva taking plac the airport lounge. In these circumstances, the Vi bound to be a superficial and a non-serious affair.

At the same time, some allowances have to be m and some liberty given — if an individual takes an e second or two in giving a reply the person should no quickly labelled a stutterer. Sometimes the candid are nervous. Worrying about nervousness makes on the more nervous. It is true that the examiners ofte not mind a candidate's nervousness unless the didate becomes jitery and is unable to answer questi The examiner on his part should see to it that propriate rapport is established. The candidate profit from imaginary Viva Voce exercises — a kin self-interview on his thesis. The exercises of the na would give him the required poise and confidence w the actual Viva takes place. The candidate should beforehand how to answer the questions likely to asked. Interestingly, I have come across uneasy

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University Professor of English, Ranchi College, Ranchi University, Ranchi-834008 dgety examiners — they would repeatedly say that they d no questions to ask. When cajoled and pressed,one them started by saying apologetically that he was ing to ask certain questions only to educate himself.

Any system that does not allow any margin of error a denial of reality. The examiners are not supposed laugh derisively at the incorrect and incongruous sponses. It has been argued that the most common ind of morally inappropriate humour is that in which meone laughs at another's incongruity. We must sist the temptation of laughing at other people's situa-ons. An examiner, in any case, should not behave as ne bully who cross-examines the candidate and appears nxious only to discover his weaknesses and to denigrate is achievements. An embarrassing question should be riefly and courteously answered. 'Leg-pulling' and eckling' indulged in by the examiner, perhaps not lone on purpose, should be tolerated patiently and emper must not be lost at any cost. Once during a Viva oce examination, an examiner mentioned his own ame and asked the candidate as to why the candidate ad not quoted him. The candidate found himself at a oss but mustered enough courage to remark that the naterial was not available. The examiner retorted that n that case the work of the researcher was incomplete.

It is a happy sign that the picture is not all that dark all the time. I have heard of a case when one of the two external examiners came and subjected the candidate to a rigorous interrogation for four hours. When they went to the airport to see the examiner off they were surprised to see the second examiner coming by the same flight. This examiner interviewed the candidate for another three hours.

The Viva, as it is usually arranged in our universities, is attended by only the external and internal examiners. Often a representative of the examination department of the university is also present. As an austerity measure, these days, generally speaking, many universities invite only one external for Viva — the less expensive one from the point of view of the travelling allowance to be paid to him. Several universities have now adopted the system of open Viva in which other members of the department are also supposed to participate but this system has not proved very effective yet. The public defence of one's thesis has been introduced only in a few universities. At some places the researcher has to give a seminar on his thesis whereas, at a few places, he is supposed to do so on every chapter of his work. Neddless to add, if we are honest and sincere any system of holding Viva is good enough.

Research and Extension

(Continued from page 7)

colleges from the mofussil districts so as to attract the local youth to subserve the above mentioned objectives. These universities were, thus, in the beginning merely examining and degree awarding bodies. Later, as we entered the 20th century, following the academic trends abroad and the growing demand for higher standards of education, the universities opened research departments in various disciplines.

However, when free India found itself faced with the yawning gap between the supply and demand of foodgrains, the agricultural universities came to be opened (Pant Nagar, 1961; Ludhiana, Udaipur and Bhubaneshwar 1962) with American collaboration, in order to spread agricultural knowledge and to introduce improved agricultural practices amongst the farming community. And, therefore, extension was accepted as a normal function of these universities, in addition to teaching and research.

The Community Development Programme, started in India in 1952, embarked upon the establishment of a vast network of extension agencies throughout the country, but in the absence of facilities for education in agriculture, the personnel enrolled in this network lacked expert knowledge. This need was supplied through the extension departments of the agricultural universities, with the result that what is now known as the Green Revolution took place in some part of the country, followed by the White Revolution, in the area of milk supply.

Although in various fora a demand is now and then raised that the traditional Indian universities should also take up extension work in their areas of study and research, a la agricultural universities, the traditional universities have yet to get into gear. Apart from organising a few extension lectures by resource persons periodically, the traditional Indian universities have not whole heartedly accepted the function of extension in the right spirit of commitment and accountability.

Mention may here be made of the Countrywide Classroom Programme launched by the UGC in 1984 in collaboration with the Doordarshan. This innovative extension Programme seems to have caught well as it caters to a felt need of the educands. However, what is needed in the transmission of such programmes in the local/national languages of India for a better impact. It is a beginning in the direction of the establishment of a University of the Air, which should occupy a preeminent place in the educational landscape of India in the coming decade. The sweep and dimension of the programme will, no doubt, cover larger areas with the passage of time and the growth of the technical capability of the resources personnel.

Should Supplementary Examinations Be Abolished?

Ambarao Uplaonkar*

Education, both formal and non-formal, has become an integral part of modern society. It is supposed to modernise the society by spreading literacy among the masses and inculcating in them modern values like scientific temper, secularism, liberalism, democracy and socialism, in general, and training the youth for diverse and manifold vocations and occupations in particular. It is a widely known fact that the present system of education in India is a legacy of British rule. It was basically evolved as a means of promoting and sustaining the colonial regime. It has remained, in form, the same though the functions, or ends it has to serve, have changed.

However, the system of education has been a subject of controversy ever since India attained Independence. Several commissions, instituted by the government of India, have studied the system of education in detail and suggested a drastic overhauling. However, drastic changes could not be introduced due to several socio-economic and political constraints. The system still remains a colonial heritage with minor modifications.

Examination System

The system of examination is an integral part of modern education system. It is through the system of examination that the larger goals of education are operationalised and realised. The system of examination is a vital instrument through which an individual's worth is measured and determined. According to S.K. Sinha, (Examination Today) 'the function of an examination is not limited to mere testing educational achievement; it serves also as a basis for effective instruction, motivation, guidance and control of students'. The system is so crucial to modern society that it effects the progress, and development of the country's economy and youth. It is not enough for the education system to have lofty ideals. It is equally important to develop the right type of examination system to realise the goals envisaged by the educational system.

The document *'Challenge of Education: A Policy Perspective'* has pinpointed the most undesirable effects of the present system of examination for India in these words: "The examination system... decides not only the fate of the students but also the content, orientatio well as the quality of education at all levels. Apart fro evaluating examinees on the basis of rote learning a memorising, their annual periodicity creates an enviro ment in which students tend to while away the time f most part of the year and gear themselves to work f the last three or four months".

The present paper is mainly concerned with the di advantages of the Supplementary Examination (c "chance" or October examination as it is also referre to) in relation to education in general and the student in particular. It also proposes an alternative scheme t be incorporated in the educational system.

Supplementary Examination

The system of examination is a much talked abou subject. Commissions and research studies have advised the Government to take suitable reforms. As result, a new experiment such as switching over from th conventional system of public examination to th semester system for undergraduate students has bee tested by a few universities in Karnataka and elsewhere. However, new innovations in the examinatio system could not work well due to one reason or th other. Consequently, the conventional system of holding examinations twice a year was reintroduced. Thu the supplementary examination for the SSLC, Pre University (II Year) and all undergraduate courses ha come to be on accepted pattern in India.

The practice of supplementary examination was i vogue before Independence, in erstwhile states lik Madras and the Nizam's Old Hyderabad. The syste came into being with a view to providing an additiona opportunity or chance to the candidates, who had faile in one or two subjects to reappear and pass and impro their employment prospects. The possession of a degree was, for decades before Independence and eve after, a sure passport to white collar jobs. Therefor the supplementary examination, aimed at saving th time and promoting the career of failed students cam into practice. To that extent the system was function

Democratising Higher Education

However, after Independence the Government India launched a massive programme of extension educational opportunities to the masses by ope

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Sharanabasaveshwar College of Arts, Gulbarga-585 103 es and universities, especially in backward areas ates. With the expansion of educational facilities, ditional rules of admission and passing also came relaxed. Acceptance of the new rules, which ed on the education of the masses, gradually to erode and undermine the values of merit and ence. One result of the indiscriminate expansion her education and unrestricted admission of stu- was the large-scale failures in examinations. In to keep the education system going, on the one and to keep the youth engaged in academic pur- on the other, a new scheme, ATKT (Allowed To Terms) was introduced. As per the new scheme, nts who failed in the previous examination, say , were allowed to take admission to the next course B.A. II), meanwhile clear the failed subjects at the ementary examination. Interestingly, with the in- ction of ATKT, the system of supplementary ex- ations became institutionalised as an integral part e educational system.

ing Unemployment

nployment opportunities, however, have not kept with the tremendous expansion in higher educa- Far from being a passport to employment, formal ation has given rise to unemployment on an un- edented scale. According to the Document (Chal- e of Education) : "Degrees and grades do not rally command credibility as a whole with the loyers in the public as well as private sectors, and whole process of higher education has become ed, disoriented and dysfunctional, producing a e number of unemployable young, men and women." a available on the incidence of unemployment clear- upport, the above statement. For example, luates and postgraduates who were unemployed in l numbered only ten thousand (10,000), which was nine (9) percent of the total educated unemployed hat time. This number had increased to twenty four ls (24,00,000) in 1985, constituting over seventeen percent of the total educated unemployed. With pace of expansion and growth it is estimated that mployed degree holders must have increased to ut thirty eight lakhs (38,00,000) by the end of 1988 ch means about twenty (20) percent of the total cated unemployed (Chauhan, "The Hindu). This re includes over twenty-six (26) thousand doctors l forty (40) thousand engineers waiting for gainful ployment after having invested huge amounts on ir education.

Data with regard to the incidence of unemployment ong the professional and technical students in Kar- aka reveal that, of the fiftyeight thousand degree holders, thirty (30) thousand, or about fifty (50) percent were unemployed (The Hindu: 8-8-1990). Further, of the fifteen (15) thousand engineers, ten (10) thousand or seventy (70) percent and of the forty (40) thousand, of diploma holders, twenty (20) thousand, or about fifty (50) percent were unemployed. It is evident that a degree today is no longer a passport to a white collar job.

It is clear that to continue further with the supplementary examinations is not only useless but also harmful from the employment point of view. Another important assumption underlying the supplementary examination was that it provided an opportunity to students to clear off failed subjects of the previous courses and enabled them to concentrate on their current subjects for the annual examination.

A casual look, however, at the results of the second and third year students from the Arts, Science and Commerce courses of a university in Karnataka for the year 1989-90 showed that more than 50 and 40 percent of the second and third year candidates, respectively, appeared for more than four subjects in the supplementary examination. This shows that the provision of the supplementary examination has not made much difference to the performance of the examinees.

As a supervisor at supplementary examinations on many occasions I have observed a majority of the candidates leaving the examination hall within an hour or so of the commencement of the paper and a majority among the rest just scribbling to fill pages. This means a majority of the failed students do not make use of the supplementary examination for purposes for which it has been instituted. It appears that the system has come to have a negative impact on the psychological make-up of the students. Perhaps it dampens the spirit of seriousness of the students about their studies.

Long Stretching Examinations Affect Completion of Syllabus

Vacation for a month is given to colleges and postgraduate departments normally between October and November of every year mainly to facilitate the conduct of supplementary examinations. Most teachers are engaged in examination duty as supervisors or as members of the Vigilance Squad for a long stretch of time as examinations for all the courses (I, II and III) cannot be held simultaneously due to the unrestricted provision of ATKT facility. That is, a student with any number of failed subjects can go to the next class, even to the final year, without clearing off the failed subjects of the previous class or classes. However, according to the new rules (Gulbarga University, Gulbarga) a student has to pass a minimum of two subjects to proceed to the next class. For example, there will be students in the III year with a back-log pertaining to the II & I year. Therefore, in order to help the examinees, examinations for the I & II years will be held, one in the morning and one in the afternoon session. Examination for the III year is held separately. Expectedly, the examinations will be stretched over a period of one and a half months. Often, the supplementary examinations either start before the commencement of the term-end vacations or end after the re-opening of colleges. In either case a good deal of disruption is caused to the teaching as a good proportion of the teachers are out of station in connection with examination work. Consequently a fortnight is lost after the colleges re-open for the second term. The matter does not end here. After the examinations, teachers are again invited for central valuation and tabulation to expedite the work and avoid delay in declaring the results. In that way another fortnight is taken away from the teaching hours. However, in some universities instead of central valuation, the answer scripts at the supplementary examination are despatched to respective examiners at their home address. Of course, this will minimise the loss of term-time on account of the supplementary examination and enable the teachers to attend to the teaching work as soon as colleges re-open for the second term. Nevertheless, the supplementary examination system does affect the teaching work.

For example, it has been observed that as most of the teachers cannot complete the second term syllabus at a comfortable pace and with due attention owing to the shortage of time, they are likely to engage special classes either in the evening or on weekend holidays, which causes a good deal of inconvenience to girl students, and rural students who have to trip up and down from nearby villages to attend classes. In view of the inconvenience and hardships that the special classes entail, a few teachers skip or do scant justice to some chapters. But it is certain that much of the syllabus is covered half-heartedly for want of time.

The composite degree colleges (with pre-university courses), which are more in number compared to degree colleges in Karnataka, face an additional hardship as they had to conduct examinations both for the PUC II year and degree courses. Often the dates of both the examinations clash and consequently such colleges have to encounter problems of accommodation and personnel. If however, pre-university examinations are held earlier than the degree, normally the classes are suspended as staff members are engaged in examination work.

It may be observed that for all practical
education has come to mean mainly two thi
pleting the syllabus and holding the examina
this process the broader goals of education seem
been lost sight of.

Enormous Expenditure

In principle expenditure on education is vi
investment in human resources, of course, in
run. It is also true that in developing countries li
expenditure on education does not yield comme
returns immediately. Nevertheless, expendi
education should not be drained away reckless
against this background it should be realised
system of supplementary examinations is no
from the point of view of cost benefit analy
expenditure vis-a-vis percentage of passes. A lo
the expenditure on the supplementary examina
a university in Karnataka shows that every exam
costs the university a sum of about 25 to 30 lakh
includes expenditure on stationery — answer
wall posters, postage, transport and printing, rem
tion and TA and DA for supervisors, examiners
members, tabulators and allowances to the non
ing and menial staff. The office staff connected w
examination work of the university, including th
troller of Examinations, used to get one month
tional pay, although this practice has been don
with recently.

Poor Results

An analysis of the supplementary examinati
shown that the proportion of candidates getting t
the examination is far lower than in the annua
combined data with regard to the results of th
Science and Commerce courses of the final ye
dents of a university in Karnataka for four cons
years showed that in 1986, 1987, 1988 and 1989,
30 and 57 per cent of students passed at the
examinations. But the corresponding figures
supplementary examinations were : 25, 17, 20
percent respectively. The difference in the res
tween the two examinations clearly shows that t
plementary examination is of little use viewed i
of money, time and energy spent on it.

Further, a majority of the SC and ST students
do not sit through the entire examination or fail
subjects because they are exempted from exam
fee. Even viewed from the point of the SC
students' performance in supplementary exami
the system is highly uneconomic.

(Contd. on p

Prosperous Provincialism

oaning the cult of violence, bigotry and intolerance, Prof. Man- ian Singh, Chairman, University Grants Commission stressed interdependence between different States of the Union and the d to ensure its equitable management in the interests of all cerned States". Prof. Manmohan Singh was delivering the Con- ation Address at the 22nd convocation of the Punjabi University, iala. He said, "Old fashioned attitudes of 'prosperous vincialism' have become obsolete and are destructive of future gress. One has to study what is happening in Western Europe e convinced that the march of technological and economic forces naking national borders a barrier to sustained progress. That vhy Europe is moving towards a single European Market". He led, "The people of Punjab and other States ought to draw rect lessons from developments in Europe and elsewhere. All se who are keen that the ancient scourge of poverty, ignorance d disease should be removed from this land as early as possible e a stake in maintaining the unity and integrity of India". Ex- pts

CONVOCATION

njab is mentioned first in s national anthem. The State hieved the highest growth rate country since independence. o has the highest per capita e in the country. I, therefore, st that Punjab should be am- s enough to work towards an tional system which is rated as er one in the country in terms ademic standards, the range quality of teaching and re- h. Punjab has the intellectual rces to achieve all this. What eed is firm political will and a ar commitment to the pursuit cellence as displayed by Punjab ers in increasing agricultural luction.

ducation has been rightly vie- as an investment in the ntry's future. Clearly, more urces will need to be mobilised chieve our educational objec- . At the same time, one cannot forget that currently our country is passing through an acute economic crisis. Resource scarcity has increased and there are many worthwhile competing claims such as for elementary education. With this background, our university system has to make every effort to achieve optimum returns from investments already made. We have to ensure that available facilities in terms of class rooms, laboratories and equipment are used to the maximum extent possible. Universities must make every effort to improve upon the minimum norm of 180 days in an academic year laid down by the UGC. Arrangements ought to be made to promote inter-university cooperation so as to avoid wasteful duplication of facilities. Our curricula and teaching methods must be modernised regularly to take advantage of the latest advances in knowledge. Firm steps should be taken to implement examination reforms concerning the content of which there is now broad national consensus. Vocationalisation of education ought to be pursued with much greater vigour. The growth of facilities for professional education should be based on a careful analysis of manpower requirements. Overall, we have to create an environment in our universities which encourages a commitment to learning,innovation and excellence.

At present the responsibility for planning of higher education at the Centre is dispersed among several agencies – the UGC, All India Council for Technical Education, ICAR, ICMR, ICSSR and several other agencies including scientific departments of Government of India. In the interest of more effective planning and coordination, it is necessary to evolve some mechanism which will enable an integrated view to be taken of higher education. Similarly in the States, it might be useful to set up State level Higher Education Councils which in consultation with the UGC and other agencies could undertake an integrated view of higher education in the States.

In planning the future development of higher education, we should not view education merely as an input into our economic machine. We should not lose sight of the wider role of education as a training ground for citizens who value "freedom, equitableness, calmness, moderation and wisdom". Our system of higher education should help to produce men and women with rounded personalities, who are intellectually alert and socially committed to the goals of nation building.

Viewed in this wider setting, our system of higher education has not proved equal to the task. In some ways, the emotional divide among regions, religious groups and caste factions is deeper now than ever before. Pursuit of competitive politics without any commitment to some basic ground rules is largely responsible for this sad situation. But our educational system has also not done enough to counter these divisive tendencies.

In this State, the daily killings of innocent persons have become an established and inescapable fact of life. The cult of violence, bigotry and intolerance which provides inspiration for such heinous crimes is a total negation of the rules of any civilized society and runs counter to the teaching of all our religions. Yet we seem to be helpless in controlling this madness. State repression has obvious limitations and does not provide a lasting solution. Nor can we resolve this problem by denying to the people of the Punjab their inalienable democratic rights as citizens of our Republic. More fundamentally, we have to wage a determined struggle for the minds of our youth and convince them about the great harm that this senseless violence is doing to the economy, society and polity of Punjab.

Punjab's labour force is increasing. So also is unemployment. It is also clear that agriculture in Punjab does not have the potential to absorb this growing labour force to any significant extent. Thus Punjab must industrialise at a rapid pace. The State's skilled labour force provides an excellent base for the growth of skill intensive industries. But can industry grow in an environment of widespread violence and unrest? Capital is even otherwise known to be notoriously shy. The disturbed conditions in the State further encourage the migration from Punjab of both capital and enterprise. All those who love Punjab should, therefore, help to end the senseless violence and insecurity which prevail in several parts of the State today.

I would further urge that in our pursuit of competitive politics we should not lose sight of the hard reality that the growth and prosperity of Punjab are closely linked to the prosperity of the rest of India. A prosperous Punjab is a source of great strength to the Indian nation. The reverse is also equally true. Where will we find markets for Punjab's surplus food grains and dairy products if there is no demand from the rest of the country? There are very little prospects of exporting these products to other countries on prices which are as remunerative as those paid by the Food Corporation of India to Punjab farmers.

In the same manner, the skill intensive industrialisation which Punjab badly needs during the next phase of its development can flourish only if Punjab industries have free access to the large Indian market. Otherwise these industries will be unable to make full use of economies of large scale which characterise modern industrial processes and, therefore, will be condemned to a low level of efficiency and productivity. Thus, if India ceases to be a vast customs union and a common market as it is today, States like Punjab will find their development options severely curtailed.

Furthermore, it should be appreciated that Punjab whose river system rises outside its territory is very vulnerable to recurrent floods, drought and soil erosion if States like Himachal Pradesh indulge in reckless deforestation and pursue policies destructive of the environment. The environmental challenge once again emphasises the need for close inter-state cooperation.

All this serves the highlight to growing interdependence
various States of India. T
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Europe is moving towards a
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The people of Punjab an
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Punjab had many grievances.
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events of 1984 have also left
scar on the minds of a large
of people, particularly the
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cient dynamism and flexib
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I can well understand the
of anger and frustration of a
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tion has a responsibility to
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vinced that India's dem
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aspirations of the Sikh com
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unter-productive. Once the sent phase of senseless violence nes to an end, the people of Pun- will be surprised at the amount support that exists in the country a redressal of their legitimate evances.

There has béen a long standing mand in this State for a review of ntre-State relations. This has w the support of a large number people in other parts of the untry. There is a growing feeling at we have to evolve a more crea- re federalism which gives more wers and autonomy to the States d at the same time further rengthens the unity and integrity India. But these issues can be dispassionately discussed and debated only in an environment of peace and tranquility.

For all these reasons, it is the solemn duty of all thinking men and women in Punjab to work actively for the restoration of peace and normalcy. We must help to create an environment in which democratic processes can take over their basic responsibility of mediating between societal tensions and conflicts without recourse to violence.

In the present difficult situation prevailing in Punjab, each one of us has an obligation to help end the agony of the people of this State. Far too much blood has already been shed, far too many of our mothers have lost their sons, far too many of our sisters have become widows in the prime of their youth, and far too many of our children have been deprived of the love and protection of their parents. It is immaterial if this tragic loss of life takes place as a result of the activities of the militant youth or police encounters. Every time a son or daughter of Punjab falls a prey to the bullet, a part of the heart and soul of Punjab dies with it. Let us all work together to end this dark and dismal chapter in the history of Punjab. Let us work together to harness the full creative potential of our youth to build a new Punjab worthy both of our heritage and our dreams.

Should Supplementary Examinations Be Abolished?

(Contd. from page 12)

bolish Supplementary Examination

An analysis of the system of supplementary examina- ion clearly shows that it is high time that it was crapped. Not that suggestions regarding the abolition f the supplementary examination have not been made o the University authorities. A generally held view is hat the abolition of supplementary examinations will esult in student opposition, protests and demonstra- ions. It is argued that facilities once extended cannot e withdrawn. This may be true to some extent. However the problem is not as difficult as feared. If the students are taken into confidence and the disadvantages of the system driven home to them, the problem can be solved without much opposition from the students. Even if there is any opposition in the beginning, it will not last long as students and student organisations in India are not well organised. Edward Shills has rightly described the Indian students as Sad- hus rather than revolutionaries.

If at all there is any opposition it may be from the teachers themselves. A few right thinking teachers have expressed the view that a vested interest has developed among the teaching and non-teaching staff who fear that in the event of abolition of the supplementary examinations they will be deprived of the financial benefits accruing from them. Amrik Singh and Altbach have rightly underlined this fact when they said: "The entire system is firmly entrenched in the universities and provides many teachers with additional income as examiners, invigilators and superintendents. Further, most administrators and many others have, in the face of continuing growth, turned to the examination system as one of the few remaining mechanisms to maintain even a minimum standard" (*The Higher Learning in India: x-xi*)

More Working Days

Educationists and expert bodies have long been urging that unless long vacations are cut-short, education cannot be transformed to serve the demands of modern India. As early as 1948, the University Education Commission pointed out that in comparison with most American universities like Harvard, Pennsylvania, Michigan, John Hopkins, Vanderbit etc., the number of working days in Indian universities was much lower. The commission, therefore, suggested that long vacations should be cut-short and the number of working days increased in colleges and universities.

Though expert suggestion is in favour of abolishing the term vacations, a short-term vacation of 15 days should be used for academic and non-academic purposes. For example, the first week should be used for conducting term examinations and the second week should be utilised for organising programmes like the NCC and NSS camps or conducting seminars and conferences, arranging college trips and tours, and inter-university sports and games.

Students and Literacy Programmes

The National Policy on Education (1986) visualises involvement of college youth and teachers among others, in Mass Functional Literacy programmes by making literacy work, as 'study service' a part of work experience and National Social Service, which would be reflected in the students final result sheets. Every college must select a group of highly motivated students and teachers to engage themselves in illiteracy eradication programmes in villages and slums. All this is possible only when the government and the universities come forward with a will to initiate changes and set the country on the path to modernisation.

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretar Officer to be Contact
July 21-26, 1991	Seventh International Meeting of University Administrators	Themes to be discussed are: (i) Standards of Profession - alism in University Administration; (ii) International Cooperation; and (iii) The Entrepreneurial University	Conference of Registrars and Secretaries and Conference of University Administrators of the United Kingdom.	Dr. F.C. Verschoor, Chairman, Organis Committee, Congres Bureau, University o Twent P.O. Box 21 7500 AE Enschede, The Netherlands
August 19-30 1991	International Course on Planning and Design of Pumping Works	To provide fundamental knowledge on pumping systems and comprehensive approach to planning and design of pumping works	Asian Institute of Technology, Thiland	Mr. Wiboon Boonyatharokul, Program Specialist, Continuing Education Center, Asian Institute of Technology, GPO Box 2754 Bangkok-10501 Thiland
Sept. 16-20, 1991	Regional Symposium on Educational Testing	Theme : Reforms and enhancements in educational testing system, test contents and formats in a country (or region)	The National Education Examination Authority (NEEA), People's Republic of China	Mr. Yang, Xuewai, Director, National Education Examinatio Authority (NEEA), S Education Commissio 30 Yu Quan Road, Beijing 100039, The People's Republic of China
Sept. 17-18, 1991	Fourth Annual Conference of the Asian Association of Open Universities	To explore the need, desirability,practicability and relevance of face to face components in Distance Education	The Open University of Sri Lanka, Colombo, Sri Lanka	Ms. C Suriyapperuma Organising Secretary, AAOU Conference, Open University, Box 21, Nugegoda, Sri Lanka
December 14-16, 1991	International Conference on Man & Environment	To discuss issues concerning the future of man and preservation of the unique planet earth	Motilal Nehru Regional Engineering College, Allahabad	Dr. R.K. Srivastava Organising Secretary ICOMEN - 91, Department of Civil E neering, Motilal Nehru Regional Engineering College, Allahabad - 211004

CAMPUS NEWS

Restructured M.Phil Programme

Calcutta University is reported have decided to introduce almost the subjects at the postgraduate el in its newly restructured M. il programme during the current ademic year.

According to University sources, proposal to include subjects like conomics, Hindi, Modern History, urnalism, Education, Library cience, Pali and Commerce, nongst others, has been made to e Vice-chancellor for his ap- roval.

Earlier, the M.Phil course was mited to subjects like English, olitical Science, Philosophy etc. tudents with a Master's degree and easonably high grades enrol for the .Phil course.

Commenting on the newly pro- osed programme, Mr. Shyamalen- lu Mitra, Senior Superintendent of he University, said that to remove ertain discrepancies, the course ad been restructured and "all subjects from almost all the streams, have been introduced, including science, commerce and humanity subjects, to maintain a balance. "From this year, the M.Phil programme course on all subjects will begin at a definite period of time, and also end at a particular time unlike past years".

Throwing more light on the matter, the Secretary of Calcutta University Senate, Mr Subhas Banerjee, said that a regulation committee had been set up to this effect, and a review committee would also be constituted to view the progress of this programme.

According to the revised regulation, the proposed year long course would be divided into two portions — one for the freshers; the other for the teachers. Although the students wishing to apply for this course will have to obtain a minimum 50 per cent marks at the postgraduate level, selection will be made strictly on the basis of merit and this procedure will also be applied in the case of University teachers. And since there is no sanction made on the number of students to be admitted to this programme, it has been decided that the student-teacher ratio for each subject will be minimum of 2:1.

Question Banking Workshop

A three-day Workshop on Question Banking in the subjects of Computer Science, Educational Psychology, Banking & Accountancy was held at Panjab University, Chandigarh from 13th to 15th May, 1991. In his keynote address Dr.V.Natarajan, Director (Research), AIU, outlined the basic principles of Question Banking and in particular the development of valid and reliable questions/items in these three subjects through a series of specially conducted Workshops getting a large body of teachers to participate in item/question writing, prevalidating and interacting. He brought to the attention of the three groups the necessity of having a large variety of questions and items so that class tests as well end semester examinations could be put together with the help of such a large number of questions and items.

Dr.Natarajan delivered three lectures in the areas of instructional objectives, design of selection type and supply type questions, and prevalidation of questions items. Participants at the end of each lecture participated in discussions and they were put into small groups to do several assignments including choice of objectives and abilities to be tested on the various syllabus topics preparing selection type items (constant alternative, multiple choice, multiple facet, matching and re-arrangements) and supply type question (completion question, simple question, short answer questions, long answer and problem solving questions). In order to enable them to write good quality items and questions, illustrative examples in these three subjects were circulated for their perusal and comprehension. Each one of the participants then took up a portion of the syllabus given to him/her and prepared questions and items within the topic content of the chosen area. They then added several technical values to every question, namely, the topic in which the question is set,the ability it purports to test, time for answering, marks that can be allotted for the correct answer etc. There were lively group discussions after individual assignments.

In all 32 participants attended the workshop at which over 2000 questions/items were selected after careful prevalidation.

Making Teachers Professional

The Academic Staff College of Himachal Pradesh University recently organised its seventh four-week Orientation Programme. Inaugurating the programme Prof K.C. Malhotra, Vice-Chancellor, said that 'the psyche of nation can be changed only if its teachers get proper status and give proper direction to its citizens'. Comparing the levels of teachers like Dronacharya and Vashishta in the ancient India with the present day teachers Prof.

Malhotra commented that concerted efforts were required in order to imbibe basic values of teaching among teachers. He further added that the UGC had rightly started the scheme of teachers' training which would go a long way in making teachers professional in the real sense.

The programme attempted at instilling appropriate teaching skills, creating confidence among teachers, educating them about the relevance of their teaching in the emerging society and updating their subject knowledge. In this process a set of creative and innovative techniques was evolved and effectively implemented. The participants freely interacted and proacted in contributing to the building up of mutually supportive learning environment. Participants were made to play various roles such as students, teachers, rapporteurs, chairpersons, judges, quiz masters etc. In addition to normal routine of interaction with the resource persons, the participants met in many informal and non-formal sessions in order to enrich their experiences and learning. The emphasis of various orientational processes was participative and contributory in nature. A number of orientational techniques such as warming up, fish bowl, brain storming, brains trust, hidden talent, workshop, debate, think tank etc., were utilised.

Speaking at the Valedictory Function, Prof. R.K. Sehgal from the faculty of Business Management, Sri Sathya Sai Institute of Higher Learning, said that the education should be for life and not for living and its aim should be to build a consistently intergrated personality with a character. He called upon the teachers to act as catalytic agents for social change in the good of present day society. Prof K.C. Malhotra, who presided, appealed to the participants to confidently perform their roles under the prevailing turmoil in different spheres. He was of the strong view that Orientation Programmes would definitely equip teachers with appropriate skills and infuse confidence and the sense of discrimination among them.

Advances in Mines Surveying Technology

A six-week intensive course on advances in mine surveying technology was recently organised by the service section of the department of Mining Engineering, Indian School of Mines, Dhanbad. The course content covered various aspects of Mine surveying viz. modern surveying instruments like Gyro-theodolite, Electronic digital monitors, Caps, Laser, Autoset levels, tr gulation, topographical survey, field Astronomy, correlation subsidence survey, geod Geodesy, photogrammetry, op cast mine surveying and surve legislation, planning and organ tion. It consisted of lectur tutorials and practicals and co puter classes in addition to fi visits.

Forty participants from differ subsidiaries of Coal India Limi joined the course. They a preciated the methodology adopt for conducting the course and w of the opinion that the course wo be of immense use in the future a would help their respective o ganisations in developing sa mines and increasing coal produ tion.

News from Agril. Universities

Tamil Nadu Agrilcultural University Opts for Semester System

The Tamil Nade G.D. Naidu Agricultural University has opted for Semester System of Education for its undergraduate, postgraduate, doctoral and post-doctoral programmes in all its contituent colleges from current academic year.

This new system of education facilitates high learning efficiency through more contact hours for the students. Also, the principle of "learning by doing" is strengthened with the adequate practical orientation in the course curriculum. The students have now ample opportunity in the courses they may choose, to practise the techniques taught and enrich their skill aspects. That means, they will not only be exposed to "know-how's" but also "do how's".

The teachers of the univers have done sufficient exercise a spade work in designing and rest ucturing the courses and cour contents so as to equip the studen to face the challenges effectively the field of Agriculture and relat sciences.

In each discipline, the syllabi h been well structured through r peated deliberations at Departme tal/Centre/Directorate/Camp and finally at University Level Sem nars. External experts from oth universities were also referred t The entire gamut of exercise w done to orient the undergradua curriculum more toward 'Technology' and postgradua cu riculum more on 'Science' co ponent of the concerned discip rength and merit of Inter- ation are maintained in the m of education also. The ks experienced in the pre- ystem were eliminated adequate inbuilt structure w system. Common course lesson plans and common paper are ensured be- campuses of the university.

new system, "Commercial ural Courses" have been in- d in order to motivate the to take up the potential sed techniques as a com- venture and making self ment in agriculture as status he students have their own of selection of the commer- iculture courses. The profit out of this venture will be the students themselves, will give them the needed on resource management ting.

der to cope up with the fast ping science, new courses technology, Environmental , Bio-energy and Manage- cience are introduced in the lum. The students will also osed to special lectures of t scientists, dedicated exten- orkers and progressive far- The reading is facilitated h special assignments and t work which are inbuilt in the stem.

Sunflower Day at PAU

Directorate of Extension tion of the Punjab Agricul- University recently organised flower Field Day. Presiding he technical session, Dr. G.S. Director of Extension Educa- f the PAU, highlighted the im- nce of oilseeds in the diver- ion of agriculture. He told MSFH-8 a hybrid variety of ower having 42 percent oil con- had been recommended for ation which if grown according to the recommendations of the PAU could yield about 8 quintals per acre. Dr.Gill urged the farmers to adopt other skills like dairying, poultry, cultivation of fruits and vegetables and rabbit farming to supplement their income since paddy-wheat rotation was no longer profitable for them. Dr Gill exhorted the farmers to use the farm inputs judiciously to cut down the cost of production. He cautioned them against the indiscriminate use of insecticides and pesticides because those were injurious to animal and human health and also caused environmental pollution.

Other experts of the PAU educated the farmers about the sowing, plant protection, fertilizer and water management and harvesting of the sunflower crop. They also educated the farmers about the cultivation and care of ensuing kharif crops, foodgrain storage and animal care

M.Tech in Computer Engineering

Dr. Khem Singh Gill, Vice-Chancellor of the Punjab Agricultural University, while presiding over the concluding function of a 10- day training programme on the use of Personal Computers held recently said that computers had become indispensable these days. He informed that a two-year M.Tech. programme in Computer Engineering would be started in the College of Agricultural Engineering of the University. Dr. Gill assured that funds for buying more personal computers to meet the needs of this training programme would be provided.

Speaking on the occasion, Dr S. D. Khepar, Dean of the College thanked the Vice-Chancellor for agreeing to provide more funds for strengthening the Computer Laboratory. Dr. Khepar was also of the view that the computer training imparted during such training programme would be far more superior and cheaper as compared to the private institutions.

The training programme was organized by the Training Unit in collaboration with the Department of Computer Science and Electrical Engineering of the College of Agricultural Engineering. Twenty-four trainees including fifteen girls attended the training. During the training the participants were explained the working of the computer in addition to doing practice on personal computer. They were given training in word processing, simple practice in the basic etc., in addition to a visit to Electronic System at Mohali.

News from UGC

Countrywide Classroom Programme

Between 8th June to 15th June, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

8.6.91

"A Talk With Prof. Holme - II"

"Irshad Panjatan : The Man of Profound Silence - II"

"Music - III - Language of Music"

9.6.91

"No Telecast

10.6.91

"Surface Tension"
"What is Quality?"
"Dantiwada Project - Participatory Water Management"

11.6.91

"Performing a Titration"
"Eat Baby Eat - Grow Baby Grow"

12.6.91

"Solar Research - II "
"Biography - An Art "
"Principles of Biosystematics - I : The Corner Stone "

13.6.91

"Computer in Distance Education"
"LE Metro "
"Shakespeare in Rajasthan "

14.6.91

"Origin of Universe "
"Conserving America : The Rivers - II"

15.6.91

"A Talk With Prof. Holme - III"
"Mudra : The Art of Communication"
"Music - IV : Voice Culture"

2nd Transmission

4.00 p.m. to 5.00 p.m.

8.6.91

"Understanding Cinema - XV : Scene Analysis - II"
"More Than a Rock"

9.6.91

No Telecast'

10.6.91

"Education and Training for Chartered Accountancy"
"Permaculture - II"

11.6.91

"Chemical Clock Reactions - II"
"Know Your Library"
"Medicine's New Vision - III : Magnetic Resonance Imaging"

12.6.91

"Wall Paintings of Darbar Guru Ram Rai"
"Biological Nitrogen Fixation : Current Status"

13.6.91

"Scanner"
"Folklore & Folkloristics - IV"
"Introduction to Sanskrit"

14.6.91

"Mathstisks"
"Earth Day Special W
ders - I "

15.6.91

"The Human Comedy -

"Naad Sagar Manthan
"Drunken Driving"

News from Abroad

Indian-American Students Shine

Four children of Indian immigrant families were among the national finalists in the 1991 Westing-house Science Talent Search, one of the most prestigious high school science competitions in the United States.

The 40 finalists, 17 girls and 23 boys, went to Washington in the first week of March to demonstrate their prize-winning projects and share in the Westinghouse-funded scholarship awards totalling $205,000. The finalists were chosen from more than 1,500 qualified entrants who participated in this year's competition.

Rageshree Ramachandran, of Fair Oaks, California who was placed the highest among the four Indian students, won 10th place and a $10,000 scholarship. The other Indian-American finalists were Mehul V. Mankad, of Mobile, Alabama; Nupur Ghoshal, of Ames, Lowa; and Venkataramana Kuntimaddi Sadananda, of Springfield, Virginia, who received sholarship awards of $1,000 each.

For the Westinghouse entry, Rageshree Ramachandran performed computer-intensive research on the adequacy of a proposed numerical model of the oceanic and atmospheric phenomena known as the El Nino-Southern Oscillation (ENSO). ENSO is the earth's most significant interannual climate variation, characterised by abnormal surface warmth, wind shifts, torrential coastal rains, and fish
Because of its global cl
weather and its ability to ef
food supply, ENSO has co
able economic impact.

Rageshree chose to work
project because of its pract
plications and its importance
rent scientific research. She
aware of ENSO's impact on
dian monsoons though she
intrigued by its global implic

Mehul Vipul Mankad of
Alabama, investigated DN
protein synthesis in maligna
for his Westinghouse projec
hul, whose parents are both
doctors, agrees with Ragesh
the Indian work ethic expl
success of Indian students
sciences as well as in othe
Mehul also has a strong int
state politics and was an
volunteer in the 1990 A
gubernatorial campaign.

Nupur Ghoshal was bo
raised in Ames, Iowa. Her
ghouse entry was part of
project to identify alternat
sources for the future. Du
research she discovered t
presence of a certain gen
makes plants more pest-r
produces a corresponding
in electrical activity. This d
and the apparatus she des
detect it could have importa
mercial applications.

Venkataramana K

anda at the age of 17 has al- engaged in significant medical ch. She became interested in logy at an early age because of eart problems of her grand- r. For her science project, eveloped a computer simula- f the onset of heart attacks due egular interactions of stimuli sed it to establish conditions which heart beat becomes ic.

amana, as she is fondly called, o a classical Indian dancer, g performed both Bharata m and Kuchipudi in the Uni- tates and abroad.

dian-American students have done extremely well in past inghouse competitions. In 16-year old Chetan Nayak of York won first place and a 00 college scholarship for his lex analysis of the interaction een gravitational and electro- etic fields. The same year, h place honours were won by Pande of McLean, Virginia. le won his $ 10,000 award for a puter-simulated space-based ballistic missile defense.

hird World Academy of Sciences (TWAS)

he Third World Academy of nces (TWAS) is an independent - governmental organization ded in 1983 by a group of distin- hed scholars from the Third rld and inaugurated by the retary General of the United Na- s in 1985.

The Academy promotes basic d applied sciences and en- rages the pursuit of science in Third World with the following cific aims:

- to give recognition to high-level scientific research performed by scientists from developing countries;
- to facilitate their mutual contacts;
- to strengthen their research work, and
- to foster it for the development of the Third World and the benefit of human welfare.

The programmes of the Academy have been established through generous funds provided by the Direzione Generale per la Cooperazione allo Sviluppo of the Italian Ministry of Foreign Affairs.

Grants for Scientific Meetings

Among other things,the Academy encourages the organization of high level international and regional scientific activities in developing countries by offering financial assistance to the organizers of conferences, workshops, Symposia and special meetings held in these countries.

The support is normally provided in the form of travel grants for principal speakers from abroad and/or participants from countries in the same region other than the country where the meeting is held. The amount provided usually does not exceed US$4,000.

Scientific Institutions and Organisations in Third World Countries holding meetings in their countries may apply for Grants to cover the travelling expenses of lecturers from abroad and/or young scientists from the region.

Organizers of International Conferences being held in Developing Countries may apply for Grants to assist with travelling expenses of eminent scientists from developing countries; the travelling expenses of principal speakers who are unable to obtain sufficient funds from other sources or travelling expenses for young promising scientists from the region.

Grants are offered in the following fields of Natural Sciencies, Agricultural Sciences, Biochemistry, Biological Sciences, Biotechnology, Chemical Sciences, Engineering Sciences, Geological Sciences, Medical Sciences.

Applications should be made on the relevant Form and should state the relevance of the activity to the development of science in the country/region. Special consideration will be given to those meetings which are likely to benefit the scientific community in Developing Countries and to promote regional and international cooperation in developing science and its application to the problems of the Third Wrold.

The Academy only considers applications made by the organizers of the meeting.

Applications will be reviewed and evaluated by a number of internationally recognized experts in the relevant fields.

Requests, together with referees comments, are considered by a review committee, chaired by the President of the Academy,which normally meets twice a year in March/April and October/November.

The closing dates for receipt of completed requests are:

1 June for meetings to be held during January-June of the following year;

1 December for meetings to be held during July-December of the following year.

Application forms for the TWAS Grants for Scientific Meetings held in Developing Countries can be obtained from the Office of the Executive Secretary, The Third World Academy of Sciences, C/o ICTP, P.O. Box 586, 34100 Trieste - Italy or from the Offices of TWAS Vice-Presidents at the following addresses:

(1) Prof.C Chagas,
Centro de Ciencias da Saude,
Universidade Federal,
de Rio de Janeiro,
Rio de Janeiro 2000,
Brazil

(2) Prof. Lu Jiaxi,
Chinese Academy of Sciences,
Beijing,
People's Republic of China

(3) Prof. T R Odhiambo,
International Centre of Insect
Physiology and Ecology (ICIPE),
P.O. Box 30772,
Nairobi,
Kenya

AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and on Higher Education. Among the topics prominently represented are Educational Sociology, Ed Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of E and Country Studies . Developing fields of Adult Education, Continuing Education and Distance Ed and Educational Technology are also well stocked. The library is particularly strong in its collection of whether they are on the setting up of different universities or on the state of Higher Education. Files of Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions our column 'Additions to the AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regu a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while regis made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and sup demand.

Research Scholars and students of education are welcome to use these resources. The Library is op 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which req must be made through your Librarian.

RESEARCH IN PROGRESS

A list of Research Scholars registered for Doctoral Degrees in Indian Universities.

PHYSICAL SCIENCES

Statistics

1. Agrawal, Rina. **Interval estimation of variance components in two-way nested unbalanced random model.** Vikram. Dr R C Jain, Reader, Department of Statistics, Vikram University, Ujjain.

2. Jorkhedkar, Aruna. **Estimation and test of hypotheses of variance components in two-way nested random model with unbalanced data.** Vikram. Dr R C Jain, Reader, Department of Statistics, Vikram University, Ujjain.

3. Trivedi, Pradeep Kumar. **Interference in a mixed model under conditional specification.** Vikram. Dr J K Tailor, Reader, Department of Statistics, Vikram University, Ujjain.

Physics

1. Dixit, Rajesh Kumar. **Positron annihilation and compton profile in metals.** Vikram. Dr S B Shrivastava, Reader, Department of Physics, Vikram University, Ujjain.

2. Gupta, Arun Kumar. **Luminescence of modified oxide phosphors.** H S Gour.Dr R K Pandey, Department of Physics, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

3. Gupta, Mahesh Kumar. **The study of new material dependent forces.** Vikram. Dr G K Upadhyaya, Lecturer, Department of Physics, Vikram University, Ujjain.

4. Jadhav, Laxman Rao. **Study of EXAFS of some compounds of rare earths.** Vikram. Dr Galav Shah, Lecturer, Department of Physics, Vikram University, Ujjain.

5. Jain, Sandeep Kumar. **Investigation on electronic properties of thick films of semi-crystalline organic and inorganic** S Gour. Prof A P Shrivastava, Head, Department of Physic Singh Gour Vishwavidyalaya, Sagar.

6. Jain, Uday Kumar. **Studies of charge storage and mechanism in polymeric thick films.** H S Gour. Dr Department of Physics, Dr Hari Singh Gour Vishwavidyala

7. Joshi, Subhash Chandra. **Study of chemical shif absorption edges in some copper and cobalt complexes.** Dr G K Upadhyaya, Lecturer, Department of Phys University, Ujjain.

8. Kulkarni, Ajay. **Design and development of inte cuits and microprocessor based modules for teaching an applications.** Vikram. Dr S C Bhand, Prof and Head, D of Physics, Vikram University, Ujjain.

9. Sethia, Pramod Kumar. **Electrolytic desalinati potable water.** Vikram. Dr S C Bhand, Prof and Head D of Physics, Vikram University, Ujjain.

10. Soni, Ghanshyam. **Thermal properties of dilute** Gour. Dr K M Kesharwani, Department of Physics, Dr Gour Vishwavidyalaya, Sagar.

11. Tripathi, Ravi Shankar. **Thermo and photo-indu carrier generation and trapping in dielectric materials.** Dr R K Pandey, Department of Physics, Dr Hari S wavidyalaya, Sagar.

12. Trivedi, Rajneesh Kumar. **The study of chemi ment on X-ray absorption spectra of metals and comp** ram. Dr G K Upadhyaya, Lecturer, Department of University, Ujjain.

Vyas, Bharat Lal. **Performance evaluation of some solar al systems.** Vikram. Dr S C Bhand, Prof and Head, Depart- of Physics, Vikram University, Ujjain.

istry

Kumar Hari Bhushan. **Synthesis of pheromones and stereo stry of sesquiterpenes of cedrene skeletor.** Delhi. Prof G B Subramanian, Department of Chemistry, University of Delhi,

Rohatgi, Amit. **Synthesis of insect pheromones and macro- L eahones.** Delhi. Prof G B V Subramanian, Department of istry, University of Delhi, Delhi.

Sujatha, T S. **Contributions to the chemistry of 1,2,4-thia- ines and 1,3,5-triazines.** Kerala. Dr C G R Nair.

Varghese, Annie. **Contribution to the chemistry of nitrogen ur heterocycles related to 1,2,4-triazoles,1,3,4 thiadiazoles ,2,4-dithiazolines.** Kerala. Dr C G R Nair.

ieering & Technology

Joshi, Mahendra Kumar. **Petrotectonic evolution of central llines between Pindar and Ramganga Valleys around Jhuni, ict Almora, U P.** BHU. Dr M Joshi, Department of Civil ieering, Banaras Hindu University, Varanasi.

Tiku, Sanjay. **Transmission electron microscopic study of materials.** BHU. Prof P Ramachandra Rao, School of rials Sciences, Banaras Hindu Undiversity, Varanasi and Dr G astry, School of Materials Sciences, Banaras Hindu University, nasi.

BIOLOGICAL SCIENCES

ny

Gangaprasad, A. **In vitro propogation or rare and en- ered medicinal plants of sacred groves of Kerala for secondary bolites.** Kerala. Dr A Sasidharan.

Jalil, Parvez. **Investigation into the quality characteristics of try seeds from different sources of M P with special reference ectona grandis and Gmelina arborea.** H S Gour. Dr A K dya, State Forest Research Institute, Poli Pather, Jabalpur and Ram Prasad, Director, State Forest Research Institute, Poli er, Jabalpur.

3. Radhakrishnan, K. **Ethnobotanical and ethno pharmacological investigation of wild plants used by the tribals of North Kerala.** Kerala. Dr A Sasidharan,Prof,Department of Botany,University College,Thiruvananthapuram and Dr P Pushpangadan,Tropical Botanic Garden and Research Institute,Thiruvananthapuram.

4. Shajivaz, M M . **Litter decomposition in tropical forests.** Kerala. Dr T K Abraham,Tropical Botanic Garden and Research Institute,Thiruvananthapuram.

5. Sulochanamma, S. **Effect of different tapping intensities on growth and yield performance and associated physiological changes in modern clones of Hevea brasiliensis Nuell.Arg.** Kerala. Dr K R Vijayakumar,Rubber Research Institute of India,Kottayam.

6. Vasantha Kumari, S. **Studies on induced mutations on certain medicinal plants of Kerala.** Kerala. Dr G Vilasinabalpur.

Zoology

1. Myna, R. **Mitochondrial metabolism in relation to various pesticides and hormones in fish.** Kerala. Dr Oommen V Oommen, Reader, Department of Zooiogy, University of Kerala, Kariavattom.

2. Nair, Padmaja N. **Some studies on fish physiology effect of pesticides and hormones on fish metabolism.** Kerala. Dr Oommen V Oommen, reader, Department of Zoology, University of Keirala, Kariavattom.

3. Thomas, Biju B. **Studies on pineal gland and its secretions and the reproductive ethophysiology of some rodent pests.** Kerala. Dr Mathew M Oommen, Reader, Department of Zoology, University of Kerala, Kariavattom.

4. Radhakrishnan Nayar,K G.**Biology of wood louse(Gustacea:Isopoda) of Kerala.**Kerala. Dr K Krishna Pillay,Prof,Department of Zoology,NSS College,Pandalam.

5. Suresh Kumar, M A. **Role of mammalian sex steroids on insect metabolism.** Kerala. Dr Oommen V Oommen, Reader, Department of Zoology, University of Kerala, Kariavattom.

6. Tiwari, Bhagwat Narayan. **Variations in the physioplankton biomass of Sagar Lake under varying hydrobiological conditions and its coorelation with primary and secondary consumers.** H S Gour. Dr V N Rias, Department of Zoology, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities.

PHYSICAL SCIENCES

hematics

1. Abdulla Mohd Mohanna Abdel-Rahman Al-Jarrah. **A study ases in topological vector spaces.** Jamia. Dr Khalil Ahmad, artment of Mathematics, Jamia Millia Islamia, Delhi.

2. Bandopadhyaya, Lakshmisree. **On multi-index transporta- problems.** Delhi.

3. Haldar, Shibsankar. **Analysis of soil stiffness in vibrations of ting piles.** Burdwan. Dr S K Basu, Prof, Department of Mathe- , Regional Engineering College, Durgapur.

4. Jain, Dwijendra Nath. **Absolutely n-th continuous functions functions of bounded n-th variation and their applications.** Burdwan. Dr Satyanarayan Mukhopadhyay, Prof, Department of Mathematics, University of Burdwan, Burdwan.

5. Jain, Sarita. **Solution of some two dimensional boundary value problems involving two equal co-axial circular infinite strips.** Delhi.

6. Kamala, G. **On two classes of arithmatic functions.** Osmania.

7. Khare, Abhay Kumar. **Some problems on fixed point theory.** HS Gour. Dr Ramprasad, Department of Mathematics, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

8. Krishna Reddy, M Chenna. **Stability analysis of some prey predator models.** Osmania.

9. Linga Raju, Temburu. **The Hall effect on rotating ionized hydromagnetic flows.** Andhra.

10. Lyall, Vinod Bala. **Generalisations of convex functions in mathematical programming.** Delhi.

11. Manjeet Kaur. **The in-plane motion of a geosynchronous satellite.** Delhi.

12. Muraleedharan Nair, K R. **Some characterization problems associated with the bivariate exponential and geometric distributions.** CUST. Dr N Unnikrishnan Nair, Prof, Department of Mathematics and Statistics, Cochin University of Science and Technology, Kochi.

13. Paik, Pranati. **The role of some distinguished sets in topology.** Durgawati. Dr S S Thakur, Department of Applied Mathematics, Government Engineering College, Jabalpur.

14. Rajput, Shivram Singh. **Some problems on fixed point theorems.** HS Gour. Dr P L Sharma, Head, Department of Mathematics, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

15. Singh, Salam Khogen. **Stratified fluid motion in a channel with reference to the flow towards a sink and flow past a dipole and solid bodies.** Gauhati. Dr K Rajendra Singh, Prof and Head (Retd), Department of Mathematics, Gauhati University, Guwahati.

16. Surinder Singh. **Estimation of simultaneous equation econometric models.** Jammu.Dr R Tiwari.

17. Venkateswarlu, Rangavajhala. **Some bianchi type cosmological models in certain alternative theories of gravitation.** Andhra.

Statistics

1. Khurana, Amarnath Pratapsingh. **Some contributions to order statistics with applications.** Devi Ahilya. Dr V D Jha, Department of Statistics, Devi Ahilya Vishwavidyalaya, Indore.

2. Md Abdul Basher Mian. **Life testing approach to manpower planning and related models.** Delhi.

Physics

1. Chinnakali, K. **Structural studies on laser dyes.** Anna.

2. Ghosh, Apurba Kumar. **Some aspects of trinucleon system.** Burdwan. Dr Tapan Kumar Das, Prof, Department of Physics, University of Burdwan, Burdwan.

3. Gian Singh. **Studies of pp---nn and np annihilation at 760 MeV/C.** Jammu. Late Dr Yog Prakash and Dr N K Rao.

4. Gore, Ratnakar. **Direct conversion of solar energy to electricity.** Devi Ahilya. Dr R K Pandey, Department of Physics, Devi Ahilya Vishwavidyalaya, Indore.

5. Jain, Rakesh Kumar. **Study of heavy ion and fission fragment- track parameters and some investigations on fission in actinide and other elements.** BHU. Prof J Rama Rao.

6. Joshi, Dattuprasad Ramanlal. **Optical study of hardness anisotrophy and chemical dissolution of crystalline materials, calcite and sodium nitrate crystals.** Baroda.

7. Kasana, Ramvir Singh. **Innovative nondestructive techniques for measuring the lens parameters and glass constants.** D Sc. Durgawati. Dr S C Dutt, Prof and Head, Department of Physics, Rani Durgawati Vishwavidyalaya, Jabalpur and Prof K J Rosenbruch, Director of Image Optics Division, Physikalisch-Technische Bundesanstalt, Braunschweig, Federal Republic, Germany.

8. Khound, Rajendra Nath. **A study on induced Bremsstrahlung instability in a magnetized plasma.** Gauhati. Dr S Bujarbarua, Assoc Prof, Institute of Advanced Study in Science and Technology, Guwahati and Dr H L Duorah, Prof, Department of Physics, Gau University, Guwahati.

9. Krishna Murty, Goddu Sree. **Studies on K-electron capt probabilities, L-flourescence yield ratios and trace element analy of environmental samples.** Andhra.

10. Krishnamurthi, S. **Studies on infrared and Raman spect of polyatomic molecules.** Anna.

11. Majumdar, Madanmohan. **Some studies on medium ener nucleus-nucleus collisions.** Burdwan. Dr B C Samanta, Pr Department of Physics, University of Burdwan, Burdwan and Dr S Samaddar, Prof, Saha Institute of Nuclear Physics, Calcutta.

12. Marwaha, Romesh Kumar. **Micro indentation studies organic molecular solids.** Saurashtra. Dr B S Shah.

13. Mehdi Soudmand. **Role of impurities in growth and sol state phase transformations of polytypic PI2 single crystals.** Del

14. Mor, Prashant. **Studies on the fabrication and working IC-based wide range function generators.** Durgawati. Dr B Chandra, Prof, Department of Physics, Rani Durgawati Vish wavidyalaya, Jabalpur.

15. Pandey, Surya Kumar. **X-ray K-absorption studies of sem systems.** ISM. Prof A R Chetal, Indian School of Mines, Dhanba

16. Pathak, Vivek Madhukar. **Photoconversion in thin sem conductor PEC solar cells.** Patel. Prof R Srivastava, Department Physics, Sardar Patel University, Vallabh Vidyanagar.

17. Radha Krishna, Kosuru. **Internal conversion studies some M4, M3 and E3 transitions.** Andhra.

18. Raghunathan, R. **Studies on the development of certain typ of sensors and microcomputer controlled instrumentation.** Ann

19. Ramachandra Rao Suvarapu Naga. **Studies on certai aspects of the horizontal drifts and anisotropy parameters of iono pheric irregularities and their variation with geo-physical and sola phenomena.** Andhra.

20. Ramalingeswara Rao, Punyamurthula. **A study of moto vehicular traffic noise and it's impact.** Andhra.

21. Sasti Kuamr, D. **A study of dual band superradiance fro laser dyes.** Anna.

22. Tiwari, Bhagwat Narayan. **A study of some aspects of mag netosphere-ionoshpere coupling.** HS Gour. Dr M S Tiwar Department of Physics, Dr Hari Singh Gour Vishwavidyalaya, Saga

23. Tyagi, Rakesh Kumar. **Generation of infra red radiation b nonlinear optical techniques.** Burdwan. Dr Gopal Chander Bha Prof, Department of Physics, University of Burdwan, Burdwan an Dr V V Rampal, Scientist F, Defence Electronics Applicatio Laboratory, Dehradun.

Chemistry

1. Ananda Kumar, R. **Use of mica as a reinforcement epoxysystems.** IIT Delhi. Prof N K Jha, Department of Chemistr Indian Institute of Technology, Delhi and Prof (Miss) P Raja Department of Textile Technology, Indian Institute of Techno Delhi.

2. Aparajit, Vaijayanti Jayant. **Synthesis of new 1,3, 5 triazin and related compounds N-aryl/alkyl isocyanodic chlorides as in termediates in sym-triazines syntheses.** Nagpur. Dr M G Para Department of Chemistry, Nagpur University, Nagpur.

3. Balar, Bhajubhai Muljibhai. **Organic and metallorganic pounds of aluminium and antimony(III).** Bhavnagar. Dr S Misra, Prof and Head, Department of Chemistry, Bhavnagar Univer sity, Bhavnagar.

4. Bhattacharyya, Saswati. **Molecular interaction of dyes and ugs.** Calcutta.

5. Chandratre, Shubhangi Padmakar. **Studies in synthesis of nzopyran derivatives.** Baroda.

6. Chawla, Chitwan Kaur. **Synthetic studies in cinnamylated avonoids.** Jammu. Dr C S Andotra.

7. Chiranjeevi Rao, Modalavalasa. **Analytical applications of me redox reactions in acetic acid medium.** Andhra.

8. Chugh, Manju. **Synthesis of new 1, 5-benzathiazipines of ovel pharmacological importance.** Rajasthan. Dr V C Pant, epartment of Chemistry, University of Rajasthan, Jaipur.

9. Denad, R Krishnakumar. **Synthesis and stereochemical udies of some N-acylpiperidones and diazepinones.** harathidasan.

10. Deva Das, M. **Studies on the formation of binary and rnary metal complexes with some schiff bases.** Osmania.

11. Florence. **Kinetic and mechanistic aspects of Vilsmeier-aack reactions.** Osmania.

12. Gupta, Sandhya. **Synthetic and spectral studies on naturally ccurring 2-Phenyl-4H-1-benzopyran-4-Ones, their 2, 3-dihydro erivatives and 1, 3-diphenylprop-2-enones.** Delhi.

13. Harwalkar, G S. **Synthetic studies in benzofurans.** Gulbar-a. Dr Y S Agasimundin, Department of Chemistry, Gulbarga niversity, Gulbarga.

14. Jain, Jai Kumar. **Structural studies on cobalt (II), nickel (II) nd copper (II) complexes with nitrogen containing ligands.** HS our. Dr Gopal Narain, Reader, Department of Chemistry, Dr arisingh Gour Vishwavidyalaya, Sagar.

15. Jana, Sukla. **Nitrogen heterocycles and single electron ransfer reactions.** Calcutta.

16. Jha, Rameshwar. **Thermodynamic studies of some surfactants in water and aqueous urea and ethylene glycol solutions.** IIT elhi. Prof J C Ahluwalia, Department of Chemistry, Indian In-titute of Technology, Delhi.

17. Joshi, S N. **Studies of natural and synthetic products of harmaceutical importance.** Saurashtra. Dr A J Baxi.

18. Kathal, Mahesh Kumar. **Studies on coordination com-ounds of metals with selected organic ligands.** H S Gour. Dr R K autam, Department of Chemistry, Dr Harisingh Gour Vish-vavidyalaya, Sagar.

19. Lakhanpal, Meena. **Structure properties and preparation of some complex oxides.** Jammu. Dr Indu Bhushan Sharma.

20. Lal, Aditi. **Ab initio MO studies of nuclear guadrupole coupling constants of halogens alkali metals and some other nuclei.** BHU. Prof P Chandra.

21. Mathur, Arvind. **Physico-chemical studies of River Ganga at Varanasi with special reference to heavy metal pollution.** BHU. Dr D C Rupainwar.

22. Mathew, E J. **Studies on some metal complexes of dithioligands.** CUST. Dr K K Mohammed Yusuff, Reader, Department of Applied Chemistry, Cochin University of Science and Technology, Cochin.

23. Mendez, Rita. **Studies on polymer complexones.** CUST. Dr V N Sivasankara Pillai, Prof, Department of Applied Chemistry, Cochin University of Science and Technology, Kochi.

24. Mishra, Bagmi. **Physicochemical studies on some phosphates of lead in aqueous media.** Berhampur. Dr P P Mahapatra, Department of Chemistry, Khallikote College, Berhampur.

25. Misra, Keshav Ch. **An investigation of the synthesis of tricalcium silicate (Alite) cement.** Dibrugarh. Dr P C Barthakur Regional Research Laboratory, Jorhat.

26. Misra, Srinibas. **Studies on pickling inhibitors on mild steel.** Burdwan. Dr S N Banerjee, Prof (Retd), Department of Chemistry, Regional Engineering College, Durgapur.

27. Nageshwara Rao, B. **Anodization of valve metals: Radiotracer studies.** Osmania.

28. Narayanswamy Iyer, Vaidyanathan. **Development of analytical techniques for speciation (chemical forms) of heavy metals.** Nagpur. Dr R Sarin, Scientist and Head, Basic Research and Training Division, National Environmental Engineering Research Institute, Nagpur.

29. Pandey, Sarika. **Studies on coordination compounds formed with some metals and sulpha drugs.** HS Gour. Dr R K Goutam, Department of Chemistry, Dr Harisingh Gour Vishwavidyalaya, Sagar and Dr K S Pitre, Department of Chemistry, Dr Harisingh Gour Vishwavidyalaya, Sagar.

30. Panigrahy, Prasanta Kumar. **Studies on the bulk and partition geochemistry of Visakhapatnam shelf sediments, East Coast of India.** Andhra.

31. Pathre, Sadanand Vasudev. **Nuclear magnetic resonance (NMR) spectroscopy of zearalenones.** Devi. Ahilya. Dr P V Kharikar, Department of Chemistry, Devi Ahilya Vishwavidyalaya, Indore.

32. Rakib-uz-Zaman, Md. **Studies on the recoil behaviour of (n,) activated bromine and iodine charged species in organic systems using charge state technique.** BHU. Prof S P Mishra.

33. Rojiwadia, A J. **Studies on polymers.** Saurashtra. Dr A R Parikh.

34. Safaya, Phoola. **Studies on biologically active metal complexes of polyphenols and related compounds.** Jammu. Dr M L Dhar.

35. Saikia, Gobin Chandra. **A contribution to the study of geochemistry of rock phosphate from Sung valley, Meghalaya, India.** Gauhati. Dr N K Baishya, Prof, Department of Chemistry, Gauhati University, Guwahati and Dr G Barman, Geologist (Sr) Geological Survey of India, North Eastern Region, Guwahati.

36. Sarkar, Achintya Kumar. **Studies on the chemistry of naturally occurring phenanthrene derivatives.** Calcutta.

37. Satya Narayana Raju, Bhupathiraju Naga. **Chemistry of strained polycyclic systems.** Baroda.

38. Shah, Kokila C. **Studies in the chemistry of natural and synthetic drugs.** Saurashtra. Dr A J Baxi.

39. Sharma, Subash Chander. **Chemical investigation of the metabolites of some drugs.** Jammu. Dr K L Dhar and Dr C K Atal.

40. Shukla, Mahendra Kumar. **Tripositive metal chelates of schiff bases.** Durgawati. Dr B V Agrawal, Prof, Department of Chemistry, Rani Durgawati Vishwavidyalaya, Jabalpur.

41. Singh, Kiran Pal. **Synthetic studies in quinonoid compounds and cross fries migration.** Delhi.

42. Singh, Sunil Kumar. **Analysis of sulphur, nitrogen and oxygen containing functional groups in pure compounds and biomedical preparations.** Durgawati.

43. Sinha, Arun Kumar. **Synthetic studies in hemi terpenoids.** IIT Delhi. Prof R C Anand, Department of Chemistry, Indian Institute of Technology, Delhi.

44. Suresh. **Physico-chemical properties of multifunctional ligands and their metal complexes.** Gulbarga. Dr V H Kulkarni, Registrar (Evaluation), Gulbarga University, Gulbarga.

45. Trivedi, Vijaykumar Hariprasad. **Organic compounds of transition elements: Synthesis, reactivity and structure.** Bhavnagar. Dr S N Misra, Prof and Head, Department of Chemistry, Bhavnagar University, Bhavnagar.

46. Upadhyay, Parmod Kumar. **Dry cell carbon (graphite) as a voltammetric electrode - A critical evaluation using a low-cost computerised electrochemical package.** Delhi.

47. Varkey, Bessy Abraham. **Studies on the inhibition of acid corrosion of commercial copper by acrylamide and related inhibitors.** Delhi.

48. Venkata Ramana, Yarlagadda. **Studies on some geochemical aspects of marine sediments, Bay of Bengal and Arabian Sea.** Andhra.

Earth Sciences

1. Adil, Shakir Husain. **Geology of the Eastern Part of Gwalior Rocks of the type area near Gwalior, M P.** HS Gour. Late Dr G N Saxena.

2. Chander Mohan. **Sampling experiment to estimate sedimentary parameters of Upper Siwalik conglomerates of the Jammu Region and a model to translate petrography to petrology.** Jammu. Dr C G Rao and Dr T R Bhatia.

3. Gaugal, Rajesh Kumar. **Geochemical study of ground water and its pollution caused by environmental effects in north east of Rajasthan.** Rajasthan. Dr K Zutshi, Department of Chemistry, University of Rajasthan, Jaipur.

4. Hassan Karami. **Mesozoic rocks of Saurashtra with special reference to their depositional environments.** Baroda.

5. Joshi, Chandrashekhar. **Geologic impact on Korba: An environmental approach.** HS Gour. Prof S K Babu, Department of Applied Geology, Dr Harisingh Gour Vishwavidyalaya, Sagar.

6. Lamba, Vikram Jeet Singh. **Study on the pegmatites of Govindpal, Mundval, Chiurwada and Chitalnar area of Bastar District, M P with special reference to tin-mineralisation.** Durgawati.

7. Madhava Rao, Alapati. **Mineralogy and petrology of chromite pyroxenites and associated basic and ultrabasic rocks of Kondapalli area, Krishna District, Andhra Pradesh, India.** Andhra.

8. Patel, Dhani Ram. **Geological and geochemical studies of the lead zinc deposit of Chauraiya, Damoh District, M P.** HS Gour. Dr P O Alexander and Dr S S Dave, Director, Geology of Mines, Raipur.

9. Singh, Sachida Nand. **Varanasi Mein Ganga pradusan - Abasakikiya adhyayan.** BHU. Prof M N Mehrotra.

10. Vajappa, H C. **Geohydrological investigation of the Lakshmanathirtha River Basin in Karnataka.** Bangalore. Dr G Srinivas, Department of Geology, Bangalore University, Bangalore.

Engineering & Technology

1. Banerji, Supratik. **Applicability of waterflooding in a heterogeneous stratified limestone reservoir.** ISM. Dr V P Sharma, Department of Petroleum Engineering, Indian School of Mines, Dhanbad and Dr P K Kulkarni, Oil and Natural Gas Commission, Dhanbad.

2. Chaudhary, Ratna. **Evaluation of the performance of various solar energy collector systems.** IIT Delhi.

3. Das, Bisweswar. **Beneficiation of iron ore mines of** ISM. Prof D D Mishra and Shri M I Ansari.

4. Krishnan, V R. **Studies on underwater hyperbaric pulse metal ARC welding.** IIT Delhi.

5. Mange Ram. **Investigation of asperity level conform EHD lubrication.** IIT Delhi.

6. Maulik, S C. **Sinter process optimisation.** ISM. Pro Mishra and Mr N Chakravorty.

7. Narayan, Om Prakash. **Studies on gravel sizing and ment fluid design in gravel packing for sand control.** ISM. Pandey.

8. Niyogi, Utpal Kumar. **Vinyl polymerization using systems containing a dye or dye intermediate.** Calcutta.

9. Pandian, Rajasekara. **Generalised model based contr robot manipulators.** IIT Delhi. Dr M Hanmandlu, Departm Electrical Engineering, Indian Institute of Technology, Delhi.

10. Rai, Sadhana. **Removal and extraction of toxic relevant in water pollution being an investivation on the rem of toxic metals by solvent extraction and water hyacinth.** Prof M S Narayanaswamy.

11. Rakshit, Arup Kumar. **Design synthesis of increme drawing process for synthetic filaments.** IIT Delhi.

12. Ravindra Kumar. **Allocation of subsidies and their im on rural development: A micro level study.** IIT Delhi.

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14. Ray, Uday Chand. **The effect of built-in drift fields, em recombinations, back surface recombinations and high injec on open circuit voltage decay.** Delhi.

15. Rengasamy, R S. **Studies on the influence of some material and other parameters on the structure and properti air-jet textured yarns.** IIT Delhi. Prof A K Sen Gupta, Departm of Textile Technology, Indian Institute of Technology, Delhi and V K Kothari, Department of Textile Technology, Indian Institut Technology, Delhi.

16. Sastry, G V K R. **New techniques in system analysis modelling using Routh-approximants.** Anna.

17. Shende, Sadashiv. **Analysis and synthesis of kinem chains using graph and information theory.** Ghasidas. Dr Rao.

18. Singh, Awadhesh Kumar. **Studies on tracer-diffusion electro-diffusion of a few ions in agar gel medium by radio- tr technique.** BHU. Prof B K D Agarwal.

19. Sinha, Akhoury Sudhir Kumar. **Development and cha terization studies on catlysts for total oxidation of n- hexane.** Prof Vijay Shanker.

20. Suryanarayana, Nishtala Venkata. **Some studies on gain feedback system design.** IIT Delhi. Dr M Hannadlu, Dep ment of Electrical Engineering, Indian Institute of Techn Delhi.

21. Venkateswarlu, Ch. **Detection and diagnosis of pro faults in chemical reactors.** Osmania.

CLASSIFIED ADVERTISEMENTS

UNIVERSITY OF BOMBAY

pplications are invited in the prescribed from for the following posts in the University ved for the candidates belonging to backward classes vis. SC/ST/DT & NT :-

Designation of the Post	Department/Centre/ College	No. of College posts
Professor	Sociology	1
Reader	- do -	1
Lecturer	- do -	1
Reader	Centre of Soviet Studies	1
Lecturer	Library Science	1
Reader in Industrial Psychology	Applied Psychology	1
Professor	Law	1
Reader	-do-	1
Lecturer	Sanskrit	1
Professor	Mathematics	1
Professor	CAS in Mathematics	1
Lecturer	Linguistics	1
Reader in Russian	Foreign Language	1
Reader in Chemistry	Chemistry	1
Lecturer in Chemistry	-do-	1
Lecturer	Physics	1
Reader	Education	1
Reader	Computer Science	1
Lecturer	-do-	1
Reader in Banking	Commerce	1
Reader in Architecture	Sir J J College of Architecture	1
Lecturerin Architecture	-do-	2
Lecturer in Structure	-do-	1
Lecturer in Architecture	-do-	1

: All the above posts except the post at serial number 16 are being advertised for the second time. The post at serial number 16 is being advertised for the third time.

@The post is permanent. However, appointment is to be made on a temporary basis and is likely to be made permanent.

Candidates having knowledge of Marathi be preferred.

Details regarding the minimum and the tional qualifications prescribed for the s, pay-scales, etc. and prescribed form of lication can be had, in person, free of ge, from the Teaching Appointments t, Registrar's Office (Room No. 134), versity of Bombay, Fort, Bombay-400

Requests for supply of a set of nine cribed forms by post should be made icient in advance with a self-addressed ped (Rs.3.00) envelope of the size 27 x ms.

Nine copies of the application in the cribed form, together with copies of cerates and the prescribed fee, should be in an envelope superscribed with "Ap- ation for the post of ____________" so reach the Registrar, University of Bom- (Teaching Appointments Units), Fort, nbay - 400 032, **on or before Thursday,** **June, 1991.** Candidates from abroad, aman and Nicobar Islands and Lakshad- p may send their applications so as to h the Registrar **on or before Thursday,** **h July, 1991.** Candidates who are already ployed shall send their applications ough proper channel. Applications ived after the last date fixed for the ipt of applications will not be accepted. mplete applications and applications on n paper will not be considered. Canvass- irect or indirect will be a disqualifica-

G.M. Rajarshi
REGISTRAR

JAWAHARLAL NEHRU UNIVERSITY

NEW DELHI

ADVT. NO. A&E-II/3/91

Applications are invited for the following posts:

(i) **Technical Officer** (Photography)-- reserved for SC (Rs.2200- 4000) :

E.Q.: (a) Bachelor of Arts/Bachelor of Science; and (b) Diploma or Degree in Fine Arts/Photography. **D.,Q.:** At least 10 years experience in photography and drawings pertaining to data derived from physical, chemical and biological research.

(2) **Research Officer in Educational Records & Research Unit**— Reserved for SC interchangeable with ST: (Rs.2000-4000)

E.Q.:- (a) A Doctor's degree or research work of an equally high standard; and (b) Good academic record with atleast second class (C in the Seven Point Scale) Master's degree in History from an Indian University or an equivalent degree from a foreign University. **D.Q.-** (a) Some experience of editing documents for publications (b) Published work in the area of Modern Indian History.

(3) **Senior Technical Assistant** :Reserved for ST in the School of Physical Sciences (Rs.1640-2900).

E.Q.: M.Sc. (Physics) with Second Class/B.Sc. (with Physics) with two years experience of working in a research teaching Laboratory/Diploma in Electronics with three years experience.

(4) **Laboratory Assistant:** in the School of Physical Sciences: (Rs.975-1540).

E.Q.: B.Sc. (with Physics), I.T.I. certificate in Electronics or Mechanical Engineering or Electrical Engineering with a minimum experience of two years/Intermediate or Class XII with Science subjects and a minimum experience of three years of working in Science Laboratory.

(5) **Technical Assistant in Language Lab. Complex:** (Rs.1400- 2300).

E.Q.: Three years Diploma in Studio Production or Cinematography. **OR** in any of the related areas from a recognised institution. **D.Q.:-** Some experience of working in a studio handling video camera, organising video production. **OR** Graduate with minimum three years experience of working in a Studio handling video camera or organising video production.

(6) **Technical Assistant** in Social Medicine & Community Health- Reserved for SC (Rs.1400-2300):

E.Q.:- B.A./B.Sc. with five years field experience or M.A./M.Sc. with two years field experience. **D.Q.:-** (a) Knowledge of modern data analysis methods. (b) Research experience, (c) Some practice in typing (d) Familiarity with record keeping and filing procedures and (e) Experience in research in the field of health.

Any of the qualifications/experience may be relaxed at the discretion of the University. It will also be open to the University to consider the names of suitable candidates who may not have applied.

Application forms may be obtained free of cost in person or by sending a self-addressed envelope (23cm x 10 cm) duly stamped to the Deputy Registrar (A&E-II), Room No. 204-B, Administrative Block, Jawaharlal Nehru University, New Delhi-67. The applications in prescribed form complete in all respect duly forwarded by the competent authority (for those in service) should reach this University latest by **25th June, 1991.**

Abbreviations:

EQ = Essential Qualification.
DQ = Desirable Qualification.

CHITRAKUT GRAMODAY VISHWAVIDYALAY

CHITRAKUT (MP)

Applications for the post mentioned below alongwith a crossed bank draft/Postal Order in favour of Chitrakut Gramoday Vishwavidyalay, Chitrakut, payable at Allahabad Bank,Chitrakut Branch,should reach the Advisor (Administration), Chitrakut Gramoday Vishwavidyalay, P.O. Chitrakut, **Distt. SATNA (MP), by June 15, 1991.** Pay Scales as prescribed by UGC. Application form and details of qualification and experience for the area of interest may be obtained by sending a self addressed and stamped envelope size 25 x 11 c.m. from the Vishwavidyalay Office.

I. FACULTY OF RURAL DEVELOPMENT

1.	Professor (RDM)	01
2.	Reader (RDM)	01
3.	Reader (MSW)	01
4.	Lecturer (RDM)	02

5.	Lecturer (MSW)	02
6.	Lecturer (Extn.)	01
7.	Research Fellow	01

II. FACULTY OF HUMANITIES

1.	Professor (Education)	01
2.	Reader (Education)	02
3.	Lecturer (Education)	02

III. FACULTY OF AGRICULTURE

1.	Professor (Biological Control)	01
2.	Lecturer (Biological Control)	02
3.	Research Fellow	01

IV. FACULTY OF RURAL TECHNOLOGY

1.	Reader	01
2.	Lecturer	02
3.	Research Fellow	01

V. ADMINISTRATION

1.	Dy. Registrar (Admn.)	01
2.	Stenographers	04
3.	University Engineer	01
4.	Asstt. Engineer	02
5.	Junior Engineer	02
6.	Draftsman	01

VICE-CHANCELLOR

INDIAN INSTITUTE OF ASTROPHYSICS

BANGALORE 560 034

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Applications are invited from Indian Nationals for the following posts:-

1. FELLOW – 3 Posts (SC/ST)

Scale of Pay: Rs. 2200-75-2800-EB-100-4000

Qualifications (Minimum): A Ph.D degree in Astrophysics with at least 2-3 years experience in carrying out independent research in Astrophysics.

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Qualifications (Minimum): Master's Degree in Physics/Astronomy with 1st Class and with one or two year's research experience.

OR

First class Master's degree in Physics with electronics or BE in electronics with at least one year's experience in microprocessors and assembly level programming in scientific instrumentation.

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OR

Good knowledge of analog or digital circuits.

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HOW TO APPLY:

1. Applications on plain paper Post applied for (b) Name in full letters) (c) Father's/Husband's Place of birth (e) Date of birth address (g) Permanent address (for communication (i) Father's/ address and occupation (j) religion and community (attach a from the Revenue Authority your claim as SC/ST) (k) giving names of the institution amination passed with year and mencing from School Leaving Exam. (l) Details of previous ex Details of present employment the employer and present sent to the ADMINISTRATIVE OF INDIAN INSTITUTE ASTROPHYSICS, BANGALORE on or before 20-6-1991.

2. Separate applications are each post. Please write clearly the plied for and advertisement number envelope.

3. All the above posts carry admissible under the rules of the which are the same as applicable to Government Employees.

4. Those employed in govern departments/Public Sector Under should apply through proper channel

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6. Outstation candidates called for view will be paid second class return way/Bus fare by the shortest route.

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Course leading to the award of

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SESSION :1991-93

Applications are invited for admission to the course leading to the Associateship in Documentation and Information Science duration of the course is 24 months.

Minimum Qualifications for Admission

(i) A post-graduate Bachelor's Degree in Library Science (B.Lib Sc./B.L.I.S.), or

(ii) A second class Master's Degree in any subject and at least two years' library/documentation/information handling

(iii) A four-year plus Degree, such as B.E. and M.B.B.S., and at least two years' library/documentation/information handling

Applicants may be required to appear in a selection test and interview. No tuition fees are charged for the trainees. A Rs.600/- per month may be granted to a student on the merit of his/her performance. A candidate admitted to the course with full from an organisation will not receive any stipend. For application form and prospectus apply to Professor and Head, DRTC, Road, R.V. College P.O., Bangalore 560059 with a crossed Demand Draft for Rs.10/- drawn in favour of "Indian Bangalore". No M.O. or I.P.O. or cheque is acceptable.

Last date for receipt of filled-in applications : 30 June, 1991

UNIVERSITY OF MADRAS

NOTIFICATION

Applications are invited for admission to the following Postgraduate Courses in the University Departments for the academic year 1991-92:

.A.DEGREE COURSE:

Branches

	History
	Political Philosophy
	Public Management
	Economics(Econometrics)
):	Economics (Indian Economics)
	Indian Philosophy
	Saiva Siddhanta
:	Applied Psychology and Psychological Services
	Urdu, Persian, Hindi, French, Kannada, Malayam, Telugu (Special)
A:	Sanskrit
B:	Tamil (Special)

VIII:	Indian Music
IX:	Ancient History and Archaeology
XIII:	Sociology
XIV:	Anthropology
XVI:	Defence & Strategic Studies
XVII:	Andragogy M.A Work Education
M.A.	Communication
*M.A.	Criminology
M.A.	Jainology
M.A.	Vaishnavism
M.A.	Public Affairs

.Com. (Business System)
.L.I.S. (Master of Library and Information Science – 2 year Course)
M.L. (International Law and Constitutional Law)

.Ss. DEGREE COURSES (Conducted at Guindy Campus)

Branches

	Mathematics
:	Statistics (Semester System)
A:	Biophysics
-C:	Physics (Semester Credit-System) a) Theoretical Physics b) Nuclear Physics
3:	Analytical Chemistry (Semester-Credit System)
-C:	Physical Chemistry (Semester-Credit System)
):	Organic Chemistry (Semester-Credit System)

IV-E:	Inorganic Chemistry (Semester-Credit System)
*IV-G:	Environmental Chemistry
VI-C:	Zoology (Special) (Semester Credit System)
VII-A:	Applied Geology
VII-C:	Geology
VIII-A:	Applied Geography (Semester System)
X:	Biochemistry
M.Sc.	Plant Science
M.Sc.	Molecular Biology

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c. DEGREE COURSES (conducted at Dr. ALM PGIBMS,Taramani campus)

X:	Biochemistry
Sc.	Environmental Toxicology
Sc.	Bio-Medical Genetics
Sc.	Microbiology (Faculty of Medicine – 3 years)
Sc.	Anatomy (Faculty of Medicine – 3 years)
Sc.	Physiology (Faculty of Medicine – 3 years)

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nducted on an inter-disciplinary basis.

Prospectus and application form can be had from the Registrar, University of Madras, Madras-600 005, from **27th May, 1991**, on written isition, with a Demand Draft for Rs.30/- drawn in favour of the Registrar, University of Madras. In case the application is required to ent through post, candidates are advised to send along with the requisition, a self-addressed envelope (size 28x13 cms) stamped for Rs.2/- ards ordinary postage or Rs.8/- towards Registered Post charges. **POSTAL ORDERS AND MONEY ORDERS ARE NOT ACCEPTED.**

84% of the sanctioned seats in each course will be filled-up by applying the Government Order with regard to communal reservation viz:, 31%, BC 30%, MBC & DC 20%, SC 18% and ST 1% and 3% in each of these categories for the physically handicapped.

The balance of 16% seats will be filled-up by the Vice- Chancellor, based on the following guidelines:

Regard shall be had to the social and economic disabilities of various sections of the student community and in particular, of students from rural areas and poor families.

Encouragement shall be given to students from rural areas who have had their education in Schools/Colleges situated in rural areas.

Students of outstanding merit who were denied selection in colleges established and administered by various communities or societies/trusts by such communities shall be considered for selection on their merit.

Encouragement shall be given to students who have distinguished themselves in Sports, NCC,NSS, Fine Arts and like activities.

Reasonable number of women students shall be selected. Applications from Orphans, widows and destitutes shall be considered with utmost sympathy.

A reasonable number of students from among foreign nations, foreigners of Indian origin and children of Indian resident abroad shall be selected.

Due consideration may be given to children of ex-servicemen, members of the Defence Services and wards of University employees.

The last date for issue and for submission of filled-in application for M.A./M.Sc./M.Com./M.L.I.S. Course is **28.6.1991.**

The last date for issue and submission of filled-in application for M.L. Degree course is **2.9.1991.**

Filled-in applications should be sent directly to the Head of the University Department concerned and not to the Registrar, University of dras, before the expiry of the last date prescribed.

The University reserves the right to start or suspend the conduct of any of the above courses, if the circumstances so warrant

Dr. A Sivamurthy, Ph.D.
REGISTRAR-IN-CHARGE

iversity Buildings,
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BIBLIOGRAPHY OF DOCTORAL DISSERTATIONS

Invaluable reference for those seeking to register for a Doctoral Programme

The bibliography is classified by subjects and covers all the disciplines in which a doctoral degree is awarded by the Indian Universities. Each entry gives complete bibliogrpahical details, viz., name of the research scholars, title of the thesis, university/institute where the research was conducted, years of registration and award of degree, availability note – whether the thesis is available in the university library/department concerned/university office and the name and complete address of the guide/supervisor.

Comprehensive and exhaustive as the bibliograph it not only reports the research being conducted at t university centres, but also includes research work d at the institutions of national importance, like the IIT institutions deemed to be universities, like the Indi School of Mines, CSIR Laboratories as also the resear establishments connected with ICAR and ICMR.

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Universities and Continuing Education

◆

Our Education System
—Need for a Radical Change

◆

Relevance of Existing Curriculum of Academic Staff College

◆

Educational Strategy for Rural Development

◆

Technological Revolution

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mittee will be competent to scree
plicants and classify them on the
of qualifications and experience
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didates, after obtaining approval
the Vice Chancellor.

ii) It will not be obligatory on the
of the University to call for inter
every candidate who possesses th
sential qualifications.

iii) Only those candidates who fulfi
prescribed qualifications on the
date of the receipt of applications
be considered eligible. The docum
concerning their eligibility rec
after the last date of application
not be entertained.

iv) Two year's research experience fo
post of Lecturer shall be consid
from the date of registration/e
ment for Ph.D. in the University

v) Number of posts may change.

vi) It shall be open to the University to
sider the names of distinguished
son(s), who may not have applied
the post of Professors on the bas
bio-data.

vii) It is not necessary to fill any all o
advertised vacancies. Recruitm
shall be need based and the adve
ment is no commitment. Canva
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Editor :
SUTINDER SINGH

19 JUN 1991
C. F. T. R. I., MYSORE

Universities and Continuing Education

K. Venkata Reddy*

The institutional notion of education as terminal is now rejected. In this era of the explosion of knowledge, education does not end with schooling or with the college or university education. It has become a life-long process. Knowledge gained a decade back becomes obsolete. According to Striner "As a society becomes increasingly complex socially and economically, the major problem confronting the society is constant readjustment and adaptation. If the society through its political, social and economic process does not provide for such adjustment the result must be major dislocations and larger the society, the more serious the repercussions.

Even those who have had the most sophisticated or advanced education are required to update their knowledge in order to adjust to the growing complexities of life, society or the profession, or the world around. It has been widely accepted that one can remain intellectually alive only if one continues to acquire knowledge. Apart from those who desire to go up the ladder of formal education leading to university degrees in various faculties, there are those working in farms, factories, commercial houses or other fields who want to brush up their knowledge or improve their professional efficiency. Even university teachers, lawyers, doctors, businessmen, managers or others engaged in different high class professions need to refresh their knowledge, to become acquainted with the latest thinking or practice in their fields. Even housewives can improve their household management ability.

This need of different sections of society to improve their existing ability is the field of continuing education. Continuing education is known in different parts of the world, by different names – non-formal education, extension education, extra-mural education, recurrent education, further education and social education. In modern conditions of rapid change and explosion of knowledge, a man or a woman must continue to learn, so that he/she can enjoy a full life. Thus, the general subject of continuing education has an extensive area and is of increasing importance to all sections of the people. It covers the liberal arts, professional education, science, technology, specialized areas of learning like law, medicine, engineering, ecology, human relations, individual or group problems, civic matters etc.

The Kothari Commission report was the first official document to point out the need and importance of continuing education in our country. It has observed : "the principle is now well recognized that a modern system of education does not merely provide widespread full-time education of different types and at different levels, it includes a range of courses and forms of instruction which an adult, outside the full time school system, needs for his personal, professional, social and other interests". Thus conceived, continuing education becomes the growing and the harvest for which formal schooling is only the planting and the cultivation.

The Commission has envisaged much larger share of the universities in the responsibility of educating adults. One significant way in which the university can give a lead is to communicate to the people the new thinking on social and economic problems. They can effectively undertake a variety of programmes for re-education of the key personnel of the different professions. They can help in building up healthy attitudes of the community towards some of the fundamental national problems, such as those

(Contd. on page 13)

**Professor of English, Sri Krishnadevaraya University, Anantapur - 515 003 (A.P.)*

OUR EDUCATION SYSTEM
Need for a Radical Change

H.K. Lakshman Rao*
R. Srinivasan

The dawn of independence provided us immense opportunities to review and recast our educational system to suit the developmental needs of our Nation and to mould our children into responsible and useful citizens who could provide the necessary leadership for the rapid development of the country. During the British Raj days, the education system was meant to serve the masters. No doubt, lot of progress has been made in the field of education since independence — more schools, colleges, technological institutions, medical colleges etc., have been opened providing greater opportunities for education for the teeming millions. Quantitatively we have achieved progress; we have over 190 Universities as compared to less than 50, prior to independence. The quality has suffered. Mere numbers have been mistaken as indicative of progress. While there is the general impression that the educational standards are fast deteriorating, we know that more and more of the educated youth are joining the ranks of the unemployed. And many are not employable; they have not acquired the necessary skill. Our education system continues to be examination oriented and does not focus on learning.

It is surprising and most unfortunate that a new class of teachers is emerging—"Teachers who do not teach". This brand of teachers are increasing in number at the university level. A recent study has revealed that when Lecturers become Readers, they reduce the number of classes handled and when Readers become Professors, they give up teaching altogether. They would like to guide Research Scholars. When scholars are enquired, we know what it means ! The relationship between teacher and taught is a strained one. There is no commitment. The teachers do not update themselves and the repetition goes on as a ritual year after year.

According to G. B. Shaw "when a man teaches something he does not know, to somebody else who has no aptitude for it, and gives him a certificate of proficiency, the latter has completed the education of a gentleman".

Education system has become highly memory based. On an average even an M.B.A. is unable to express himself at discussions/interviews and workspots. It h been surprising to note that 3 months after the examin tion, when an interview was conducted for selectio many postgraduate students admitted that they h forgotton many things they learnt—the superfici memory based system.

What has gone wrong?

The educational system prevalent hitherto w evolved by our erstwhile British rulers mainly geared turn out clerks for running the imperialist governmen With the advent of independence, we should have r oriented the educational system which could mould th future leaders of the society rather than pursuing th same path. True, a number of Commissions have gon into the heart of this problem and have come out wi recommendations for putting our educational system o an even keel. However, there has been only lukewar support and implementation and today we find wid disparities in the educational standards between on State and another due to different media of instructio differences in the curricula, textbooks, physical faciliti etc. It is obvious that the policy makers/educators ha not taken seriously to this task of implementing a prop and uniform system of education throughout th country. The varied standards of education syste among universities, schools and colleges have create immense problems to students/parents while on tran fer; the syllabus, the quality of teaching vary too muc as a result of which, same degrees of two universities a hardly comparable for example an M.B.A. of Indi Institute of Management, Ahmedabad is not equated an M.B.A. of a University. The inevitable result of suc apathy is that unemployment is growing among th educated with the attendant problems of "frustratio "generation gap" etc.,

Instead of removing fear and helping to devel self-confidence, the teachers have closed the mind the students.

What can we do about this?

The parents, the teachers and the leaders of th society can do a lot in order to ensure that even at th late hour improvements in the system are brought ab and solutions found to the problems plaguing tional system. The teachers must have a parental le and must enjoy their profession as "teacher" and ıen the "flowering" takes place.

**Deputy General Manager (Administration),*
Madras Fertilizers Limited, Manali, Madras - 600 068.

can the teachers do?

s often said that teaching is a noble profession. ıers, therefore, should consider themselves ed in a Nation building activity and not merely as arners. Let us look back at the "gurukula system" ent in this country wherein only a few deserving ıts were taken in for higher education. They had in the same dormitory along with the teachers. acher used to provide enough opportunities for ving, listening, discussing as tools of learning. hing has become a one way traffic – dictation of !!) This enjoined the teacher setting a living les for his students. The students, therefore, not icked up higher learning in arts and science but ied to emulate the exemplary living of the teacher. products could, therefore, provide the necessary ship for the Nation.

haps the same system may not work today in view larger numbers involved. But, nevertheless tion cannot be given a mere mass production ach. Teachers have to set a living example to the ıts by being students themselves if the latter have n out to be the future leaders of the right type. there is a growing gap between the teacher and udents. Teachers do not seem to take an abiding st in each student. Some just take a perfunctory of the tasks involved.

ılike old days students are not kept fully busy with r assignments. We cannot therefore blame the nts if their idle hours are directed towards mis-ous deeds or undesirable habits.

oved Methods of Teaching

hile we have professionally qualified teachers, it ırs that the teaching methods adopted have not pace with the advancement made elsewhere. The ing kits used are still primitive. No doubt, NCERT roduced well-written textbooks but these are not sarily followed everywhere. One could see in con- the quality and contents of children's story books ght out in USSR. With proper attention and ation, we could also produce good quality books the reach of the common man.

ıe various psychological principles of learning are ell known to be recounted in full here. However, are highlighted below:-

eating interest

is obviously the task of a teacher to create interest in the subject taught. This is more of an art than a science. The teacher has to think how to make mathematics, physics etc., more meaningful and interesting to every student.

It is unfortunate that "Mathematics " has been made as a horror and the shock of it stays for long among students. The desire to make fast money by private tuitions has made teachers as cheaters! We may recall Gilberth"s ability to create interest in his children to pick up the Morse code by providing a small present to whoever could decode the message. The ingenuity of every teacher is called for in finding the appropriate methos for creating interest in the students.

(ii) *Modulate the teaching to suit the level of Understanding*

Use the technique of building block stages – proceed from known to unknown. This is a difficult task, which, however, will have to be performed by the teacher so that no one is left behind. Programmed instruction is widely used in western countries so that children at various levels of understanding can pick up at their own pace. These methods are still to find application in our schools.

(iii) *More of group discussion, visual aids and use of feedback*

The lecture method though still widely used is quite outmoded. Studies have shown that more the active participation of the students, greater is their interest in the subject and assimilation. The extent of use of audio-visual aids, charts, models, film strips etc., is still rather tardy. This requires a lot of preparation on the part of the teacher. Some of them are however readily available. But what a difference they can make on the understanding of the subject !

Indeed examination answer books provide a good feedback to teachers to understand the depth and needs of students so that the teacher can adopt a Marketing approach, but these are ignored.

Visits to places of interest, educational museums etc., would make the subject more meaningful. In the Museum of Science and Technology in Chicago, even elders find their forgotton theories in Physics, and Mathematics brought back to life through live experiments. We should organise more such educational museums within the reach of the students.

Giving the instructions in doses, or assigning tasks to small groups of students and getting a feedback on their understanding – such steps not only make teaching far more interesting but also effective from the point of view of communication.

(iv) *Let them have an opportunity to try out experiment etc.*

Inquisitive minds of the children learn far more by doing through experimenting etc. This gives them greater confidence and they learn what happens if something is done the right way or otherwise. The teacher could guide them and use the principle of "reinforcement" to enhance assimilation.

Many more principles can be added. The question is how far do we use them as teachers. An old adage say that "if the students have not learnt, the teachers has not taught". This is only to remind that the teacher has to adopt far more effective methods to ensure that the learning takes place.

What can we as parents do?

In the advanced countries, there is a wider involvement of every citizen in the various facets of community life like administration of the town, schools, service clubs etc. Without such active involvement, we cannot build up the base for the democratic way of life. While we all complain of deterioration in standards of education, generation gap etc., what are we doing to arrest this trend or to improve matters! Do we take an abiding interest in the problems faced by the educational institutions?

The evaluation method adopted by teachers in case of examination papers and assignments is equally disturbing. The students are getting disturbed and feel that justice is not done. The teachers appear to evaluate students' responses in a haphazard manner.

It is obvious that we, parents, should explore ways and means for getting ourselves heard through school advisory councils etc., and take an increasing interest in the educational system. Through such association, we may be able to help the schools in getting additional facilities wherever necessary and in toning up the educational system in general. Unless such broad-based action is thought out, we will be failing in our duty as elders of this generation.

We may conclude by quoting Abraham Lincoln on Education: "We will have to learn. I know that all men are not just, all men are not true. But teach him also that for every scoundrel there is a hero; that for every selfish politician, there is a dedicated leader..... Teach him that for every enemy there is a friend. It will take time. I know; but teach him, if you can, that a dollar earned is of far more value than five found..... Teach him to learn to lose.......and also to enjoy winning. Steer him away from enemy. If you can, teach him the secret o laughter. Let him learn early that the bullies a easiest to lick...... Teach him, if you can, the wo books......but also give him quiet time to ponde eternal mystery of birds in the sky, bees in the su flowers on a green hillside.

In School, teach him it is far more honourable t than to cheat.... Teach him to have faith in his own even if everyone tells him that they are wrong.... T him to be gentle with gentle people, and tough wi tough. Try to give my son the strength, not to follo crowd when everyone is getting on the band wa Teach him to listen to all men.....but teach him al filter all he hears on a screen of truth, and take o good that comes through.

Teach him, if you can, how to laugh when he is sa Teach him there is no shame in tears. Teach him to at cynics and to beware of too much sweetness..... T him to sell his brawn and brain to the highest bid but never to put a price tag on his heart and soul. T him to close his ears to a howling mob.....and to s and fight if he thinks he is right.

Treat him gently, but do not cuddle him, because the test of fire makes fine steel. Let him have courage to be impatient....let him have the patienc be brave. Teach him always to have sublime fait himself, because then he will always have sublime in mankind".

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Relevance of Existing Curriculum of Academic Staff College

An Empirical Study

B. K. Passi *

Rajendra Pal**

Jniversity Grants Commission (UGC) has es- d Academic Staff Colleges (ASCs) for the on of teachers in higher education in India. sting orientation course includes four major ents; (a) awareness of linkages among society, nent and education; (b) philosophy of educa- dian education system and pedagogy; (c) sub- adation; and (d) management and personality nent.

validity of these components has been ques- y teachers and resource persons. Empirical of these components must be reviewed. In vords, the college teachers must validate e and usefulness of these courses. In this con- study was undertaken with a view to (i) studying tions of the participants of a given orientation , (ii) assessing the relevance of the three com- viz, awareness of linkages among society, en- nt and education; philosophy of education, ducation system and pedagogy; management sonality development, and (iii) proposing sug- for future improvement of the orientation ns.

School of Education, Indore, had organised ion programs of ASCs. The present paper is pon the data collected from the participants of hese programs. During this program, 62 college s participated, out of which 42 were male and female. These teachers belonged to 22 dif- subjects like – sociology, psychology, phy, political science, civics, economics, history, phy, music, drawing and painting, law, com- home science, physics, chemistry, botany, zool- ology, pharmacy, Sanskrit, Hindi and English.

participants were asked to comment upon the ce and usefulness of topics.

The ASC course covered three components, viz.(A) Awareness of linkages among society, environment and education; (B) philosophy of education, Indian education system and pedagogy; (D) management and personality development. The duration of this course was four weeks. Experts from different areas having specialisation of the respective topics were invited. These experts were teachers, social workers, philosophers, intellectuals. Based upon the nature of topics and their subsequent discussion, an opinionnaire was developed. Its was a semi-structured tool, meant to collect data from 62 participants. Apart from ratings, comments were sought from the participants regarding relevancy and usefulness of the given topics.

The data were analysed by applying chi-square and content analysis. The results for components A, B and D are given in Tables 1 to 3 below:

Table 1 : Relevancy of topics related to component A

Topics : Component A	*Chi-Square*
egalitarian society	29.52
environmental pollution	55.16
secularism & casteism	13.36
national unity	32.03
poverty and unemployment	16.39
youth and indiscipline	05.92*
rural development and urbanisation	11.75
multilingualism & multiple culture	06.35*
role of college & University teacher	12.33
value based education	06.01*

**Topics considered as irrelevant*

Except three topics : youth and indiscipline, multilingualism and multiple culture, and value based education all other topics included in the program are found to be relevant by the participants.

Three topics considered irrelevant by college teachers do have sociological bearing to educational problems. Does it mean that threse topics were not

---

l of Education, Devi Ahilya Vishwavidyalya), Indore.

onal Institute of Educational Planning and Ad- ation (NIEPA), New Delhi.

presented properly? Does it mean that college teachers have developed insensitivity towards sociological issues? Does it mean that for the given treatment, the sample was selective? All these questions need further explanations. However, these questions have bearing for the formulation of new curriculum and organization of ASC program in future.

Table 2 : Relevancy of topics related to component B

Topics : Component B	*Chi-Square*
philosophy of higher education	22.24
methods of teaching	36.67
curriculum development	10.10
teaching aids	24.66
futurology and higher education	15.01
learning process & creativity	23.49
self instructional material	14.13
brainstorming	15.59
library study	07.07*
reading skill	20.33
evaluation method	09.02*
economics of education	26.31
Indian education policy	11.31
education and planning	11.90
non-formal education	10.22

**Topics considered as irrelevant*

Except two topics : library study and methods of evaluation, all other topics included in the program are found to be relevant by the participants.

It is quite surprising that library study and methods of evaluation have been considered as irrelevant topics. In fact it appears to the investigators that these topics are quite important and relevant. A few questions arise in our minds. Is it that the contents of evaluation methods were too technical for college teachers? Is it that concepts, like objectivity, reliability, and validity in college examinations are considered extraneous by college teachers?

Regarding the topics of library study undergraduate teachers might have found it irrelevant as library is either not available in colleges or not required due to faulty examination system.

Tabel 3 : Relevancy of topics related to component D

Topics : Component D	*Chi-Square*
communication skills	11.67
how to run a club	04.77*
logical thinking	32.31
games	11.91
student counselling	21.30
college management	15.31
university management	08.12*
computer education	10.82

* *Topics considered as irrelevant*

Except two topics : how to run a club and univ management, all other topics included in the prog are found to be relevant by the participants.

The college teachers did not find any relevance i topic 'how to run a club'. It might be due to fact tha existing college environment is not conducive to ru science club. Generally, there is shortage of sp money and equipment. In the external evaluatio academic weightage is given to such activities organ by the students and teachers.

The teachers did not find any relevance for second topic, viz. university management. It may be to the fact that the sampled teachers were quite yo They did not have enough experience about functioning of university. They might have perce themselves as isolated component of the system.

Participants gave a few suggestions to improv efficiency of ASC programs. They suggested topics like classroom controls, computer applicati and psychological testing should be included in the courses. The ASC course should be organised for f teachers, experienced teachers, principals and ministrators. Multiple resource persons should be ranged to deal important topics. Continu evaluation of the participants, resource persons, ganizers, and content coverage should become reg feature of ASC programs. Hindi and simple te should be used for presentation and discussion.

References

1. Ministry of Human Resource Development, National Educ Policy (1986).

2. Ministry of Human Resource Development, Programme o tion (1986).

3. Passi B.K. and Sahoo P.K. Academic Staff College : S periences, University News, January, 1988

4. University Grants Commission. Academic Staff Orien Scheme, 1987. (Mimeographed)

Educational Strategy for Rural Development in India

P.H. Sethumadhava Rao*

he history of Indian education is a scenario of both
t and darkness, of outstanding achievements
ther with many failures. As a result of the educa-
al system that has been developed during the last
centuries, we have at present 146 universities, 30
med to be Universities, 7000 colleges, 60,000 secon-
schools and about eight lakh primary schools, 4
ion teachers, 120 million students and a huge annual
enditure of approx. Rs. 30,000 million which is next
at on defence.

nfortunately, the education system has developed
e major drawbacks:

) The educational system in India has continued to
ominated by models and values adopted during the
onial rule. There is greater emphasis on narrow
ividualism, verbal influency, mere acquisition of in-
mation, neglecting social objectives, rural com-
nity, cooperation, etc. More emphasis is laid on the
mal school, neglecting non-formal and recurrent
ication. It is observed that educational institutions
ction in isolation from the community as well as from
another.

i) The second drawback is that the system maintains
t of double standards. There are few institutions at
levels which are of good quality and perhaps could
compared with those of similar type in developed
ntries. Access to such institutions is selective and is
erally availed of by the top social groups. This
alism naturally leads to undesirable social segrega-
n.

iii) It is the upper and middle class who have been
nefited by this system. Sixty percent of the population
ich is still illiterate, has received none of its benefits.
every 100 children of six years of age, 20 do not go to
ool, 55 drop out at an early stage, and only about 25
mplete class VIII. 70 percent of the seats in secon-
ry schools and 80 percent of the seats in universities
taken by the top 30 percent of income group.

It is obvious from the above facts that there is a basic need for drastic overhaul of educational system.

There is a need for transformation of its character through the introduction of a modern scientific outlook to suit our national needs; a substantial improvement of standards; an extension of its coverage so that education of the people becomes a central objective. It is in these directions that priorities have to be decided in educational planning in India.

It is interesting to note that nearly 80 percent of the total population lives in rural areas and about 75 percent of it is dependent for their livelihood on agriculture, which accounts for 50 percent of the GNP. In the post-independence period, the development strategy in India has tended increasingly to centre on rural development.

Development of rural areas, however, does not necessarily mean the development of the rural people or of the weakest among them. It was felt at an early stage of development that without involving the people, development would not gain momentum in the interest of the weaker sections of the society. It was with this intention of completely involving the people that the community development programme was launched in the first five year plan on a countrywide scale. This programme had before it the rich experience of pre-Independence India in the fields of constructive work launched by the great national leaders like Mahatma Gandhi and Rabindranath Tagore. The main thrust of their work, was to create self-reliance among the people and the vitality of the programme was derived from the generated strength of the people themselves.

India's Community Development programme launched in 1952 gave the term a broader meaning, embracing both social and economic development objectives and wider range of activities. Pandit Nehru faced the gigantic task of modernizing rural India with a minimum of resources.

The educational programmes under the Community Development Scheme were practically all non-formal and non-standardized. The educational approach of building up the skills, attitudes and cooperative strength of the people was lost sight of with the result that the

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hadurshah Zafar Marg, New Delhi - 110 002.

community development programme failed to achieve the intended results. It was, however, clear that without full involvement of the people, no development could take place. These lessons had to be incorporated to some extent in the area development plans, the integrated rural development management programme, agricultural labour programmes, etc. At present, various departments of government, academic circles and voluntary organizations are emphasizing the need for immediate attention to the development of the rural people, especially the weaker sections, to whom so far the benefits of development have not reached. The task of rural transformation and development is a difficult one.

The rural society is not a homogeneous one but is caste ridden — the exploiter and exploited relationships have stratified over the centuries, land distribution system is inequitous. Nearly 77% of ownership holdings in India are of less than 5 acres of land in area, of which 62.1% are of less than 2.5 acres in size and 43.9% of less than one acre. Yet these holdings of less than 5 acres come to only 24.4% of the total holdings, command 39% of the total owned area. This low asset structure is a key factor in rural situation. Land, which is the main asset in rural areas has determined not only man's relationship with his environment, but also his relationship with other men.

The fundamental task which education has to perform for rural development would be to make people aware of the need for development, the right directions of development and the manner in which they could participate in it and benefit from it. This is naturally a continuing task in which the various stages and kinds of education have to play their part. Education, thus, can be equated with learning, regardless of where, how or when the learning occurs. In this connection, one could distinguish between three modes of education:

i) Informal education
ii) Formal education; and
iii) Non-formal education.

Informal Education is the life long process by which an individual acquires and accumulates knowledge, skills, attitudes and insights from daily experience — at home, at work, etc. This type of education is unorganized and not systematic.

Formal Education is the institutionalized (in schools & colleges) graded and hierarchically structured education system from the primary level to the university.

Non-formal education is an organized, systematic, educational activity carried outside the formal system of education. This type of education provides types of learning to certain groups of people like children. This may include programmes like tural extension training to farmers, adult liter cupational skill training, community program instruction in health, nutrition, family pla cooperatives, etc.

Rural Development and Education

Rural people comprise the vast majority of tion in the Third World countries and are in non-formal education whether they live in villag farms. Thus future national plans of such co including India, must provide a balance betwee and urban development and more emphasis o areas.

Thrust in agriculture is an essential factor fo development. Rural development is the result of interacting forces. Education is an importan The educational needs for rural development classified as under:

A. *Basic Education or General Education:* literacy, numeracy, an elementary understand science and one's environment; these ought achieved in primary school education.

B. *Family Improvement Education:* Desig impart knowledge, skills and attitudes useful in im ing the quality of family life, on such subjects as and nutrition, child care, home repairs and imp ments, family planning and so on.

C. *Community Improvement Education:* Des to strengthen local and national institutions and p ses through instruction in matters such as loca national government, cooperatives, comm projects, etc.

D. *Occupational Education:* Designed to de particular knowledge and skills associated with economic activities and useful in making a living.

Let us now examine the priorities in educa planning in India at the various levels.

I. School Education for Rural Development

i) The curriculum should be geared to the de ment of the community; the basic idea bein children should learn by doing. There is an urgent for social change, and hence a total change present thinking of school education is nece Education in the rural areas need to be linked with development for strong social, and economic pe reasons. No development can take place without people. Pedagogically, education should be to the environment and the problem solving ities of the pupils developed through handling blems of their immediate environment in the first e. The objectives of education and evaluative will have to be reoriented to suit the demands rural students. The aim should be to drive at attitudes, skills and knowledge to be attained by cerned and to develop the personality of the Participation in rural development should not be iction, but a means of education so that neither dents nor the teachers are over-burdened. This cessitates education of the community, public ; into the new concept of education so that an here of understanding can be created through a revolutionary change can take place.

The children of the rural areas as of urban areas o be prepared for the developing world, which r a continuous adaptation by the education sys- the changing environment. This requires a c and scientific visualisation of the future village e manpower needs.

In order to implement the programmes effective- developmental agencies should build an educa- component in their own programmes. They l also use the school as a base for socio-economic ion to the villages.

Revolution in education can be accomplished gh a phased programme. In the first instance, experience could be universalised which is a part ten year school curriculum. Work experience l be the centre of education. For this, a number efully designed pilot projects should be launched the schools have the freedom to work out the er in which the total environment of the child can ne the centre of education.

While formal education has to be oriented to development, a tremendous effort has to be ted to do so. The school can assist in the educa- of the dropouts, keeping in view their present cupations and the constraints within which they to operate. The school can assist in the education community with regard to the problems of health anitation, etc.

Higher Education for Rural Development (Formal and Non-formal)

Education can play an important role for rural lopment. There is a need for awareness for lopment among the rural people which can be ef- ely created by an educational process.

ii) Higher Education can contribute in the form of educational research, by defining clearly and comprehensively the significance of rural development which is to be conceived in its totality and in relation to the various aspects of Indian culture. This type of research could be based on direct involvement in field work.

iii) It is important to note that the ideas of education and of development are undergoing at present revolutionary changes. Education is now conceived as a life long process. One can also recognise the importance of research in the promotion of economic and social development in the rural areas. Some research organisations in India are actively engaged in research work having a direct bearing on rural development. Specific areas and topics of research could be identified, and the list could be published for consultation by those who are keen to undertake research in the field of rural development.

iv) The importance of the National Service Scheme (NSS) should not be underestimated and steps taken to strengthen and enlarge its working. The activities of the NSS could be like

A. Health and Sanitation

B. Diet — Balanced diet

C. Family Planning

D. Agriculture — Irrigation, poultry farming, storage, food preservation, etc.

E. Labour — Training in agricultural operations, etc.

F. Cultural Programmes —topics related to Indian culture and problems of rural development such as family planning, awareness and control of common diseases, social evils - dowry, literacy, food nutrition, etc.

G. Other Activities — Literacy classes, legal advice for rural people, road repairing, eye camps for medical check up, running cooperative stores and cooperatives, spreading compulsory primary education, studies of School dropouts, stagnation, etc. Non-formal education for the dropouts, continuing education, programmes, etc.

v) The students and teachers of the universities/colleges could help in rural development by making the rural people aware of their own needs and also of the various assistance schemes available for them through various agencies including banks and cooperatives.

vi) The universities should offer courses on social and economic development in the rural areas as a part of the courses in Economics, Sociology, etc. In such courses, the problems of rural development could be highlighted.

vii) Facilities for training students in skills in the fields of science, technology, health, etc. should be provided in colleges/universities so that they can render effective service in rural areas through NSS or other programmes. Perhaps, scholarships and fellowships may be given to them in order to implement the programme effectively. The trend to adopt individual villages or groups of villages by educational institutions should be widely encouraged. Professional and technical institutions could help in evolving appropriate technology for the rural areas.

viii) The University Grants Commission can have a cell to plan and encourage the participation of colleges and universities in rural development.

III. Non-formal Education for Youth and Adults

The concept of non-formal education for rural development means a fundamental change in the approach towards education in general. Non-formal education should enable the villagers and village community to deal with their own problems and take their own decision in rural development.

Adult Education

This is a very important aspect of education for rural development. This is, perhaps, the most important segment of non-formal education. Adult education yields rich and early dividends and hence should be accorded top priority. Even among adults, the education of the large number of poor and illiterate persons should receive the utmost attention. The main objective of this programme should be to educate and mobilize the masses and to involve them meaningfully in national development. This programme should also strive to make all adults (particularly in the age group 21-35) functionally literate and lay the greatest emphasis on the non-formal education of youth (age group 15-21).

The cultural, social and spiritual education should be an important ingredient of Adult Education. The best strategy is to develop, among the poorer sections of rural community, learning productive groups where small family groups with common interests are brought together and enabled to identify their problems and possible solutions.

Another aspect of adult education is that the developmental agencies must build in their programmes an educational component so that th message could reach the people and they could secu their cooperation most effectively.

The content and learning materials for non-form education for rural adults will have to be local specif A number of broad areas of rural developme programmes should be treated as a general frame wit which contents are identified and given priorities a cording to local problems. Some of them could be:

i) Occupational efficiency – such as poultry farming, dairying etc.,

ii) Health, nutrition and family size;

iii) Environment and ecology;

iv) Saving habits; and

v) Functional Literacy, etc.

While organising non-formal education progra mes, the role and relationship of the various agenci has to be kept in view along with the broad objectives rural development. The main objective of the develo ment programmes is to enable the beneficiaries receive and utilise the facilities made available government departments and other agencies and also be actively involved in decision making. Non-form education should assist rural poor to build up the receiving mechanism at the grassroots level.

The various government functionaries a specialists and scientist should themselves be treated educators for rural development. Personnel like do tors, agronomists can play the role of educators. Eve department of government operating in the field of rur development should have at every level an educati component as an integral part of its activities. Th non-governmental voluntary organisations can play important role by organising production-cum-learn groups. To quote Mahatma Gandhi "Adult educati centres should take the form of producing and consu ing cooperatives".

The scope of adult education is as wide as life itse Its requirements are different from the normal scho system. It depends upon the support it receives fro several agencies, particularly the universities and pub institutions and libraries. The effectiveness of t programmes of adult education depends upon a co petent administrative machinery.

In India, an effective programme of adult educati should envisage the following:

a) Eradication of illiteracy;

) Continuing education;

) Correspondence Courses;

) Libraries;

) Role of universities in adult education; and

Organization and administration of adult education.

Eradication of Illiteracy

literacy as a mass phenomenon blocks economic social progress, affects economic productivity, ulation control, national integration and security improvement in health and sanitation. In the words rof. V.K.R.V. Rao, "Without adult education and t literacy, it is not possible to have that range and d of economic and social development which we ire, nor is it possible to impart that content or ity or tone to our economic and social development makes it worthwhile in terms of values and welfare. rogramme of adult education and adult literacy uld therefore take a front place in any programme conomic and social development."

t is, therefore, evident that while efforts to develop ogramme of free and compulsory education should inue with vigour, a massive and direct attack on racy has to be made. This has to be done by the ous organizations including universities, Radio, . and other mass media.

Continuing Education

Adult education has an enduring function in the onal system of education. A modern system of cation should include in addition to full time educa- of different types and at different levels, a wide ge of courses and forms of instruction which an adult side the full time school system needs for his per- al, professional, social and other interests.

The system of continuing education should be igned to suit two different groups of people. The group consists of those who can join with others to n groups for part time study in educational institu- is or adhoc classes of teaching in specific subjects anized by the agencies such as the universities, rds of secondary education or institutions of techni- vocational or agricultural education. The second up is composed of those who must study at home ing such hours as they can find for the purpose.

Correspondence Courses

Correspondence or home study courses which are quenced in accordance with the principles of programmed learning are of enormous benefit in certain fields of education. These courses could be supported by radio and television programmes. Such courses are available for those who desire to enrich their lives by studying subjects of cultural and aesthetic value such as Languages, Philosophy, History, Politics, Economics, etc.

d) *Libraries*

Libraries are the backbone of the system of adult education, particularly in rural areas. These should be dynamic so as to educate and attract adults to use them. School libraries could be integrated with the system of public libraries as schools could be centres of adult education and extension services.

Role of Universities in Adult Education

The Universities can take the responsibility for educating adults through various programmes. The universities can effectively undertake a variety of programmes for re-education of the key personnel of the different professions. They can organise social service camps and adopt villages for intensive programmes for eradication of illiteracy. They should have an efficient machinery for launching carefully planned adult education programmes and for evaluating achievements.

Mass Media for Rural Development

Non formal education can be promoted effectively through mass media. It is generally observed that there is a communication gap between the rural population and the message of developmental programmes. We should see that the message reaches the people with continuity. India has a rich storehouse of traditional media which have been used for centuries as agencies for educating the masses such as keertan, yatra, tamasha, etc. These can be used as effective agencies of communication with the masses. Programme of rural irrigation, new scientific and technological methods of agriculture, sanitation, health education, family planning, etc. could be powerfully shown through mass media — Radio, T.V., etc.

The developmental programmes should be planned and produced with emphasis on the positive aspects, while employing mass media. Educational research organisations could take up a study on information needs, existing communication patterns and media habits of the people especially those belonging to the weaker sections of the community.

Role of Voluntary Organisations

Voluntary organisations, which have dedicated workers and also a long tradition of dedicated service to the community, can play an effective role in using education for rural development.

The voluntary organisations can concentrate on educating the community rather than on supplying services and materials, which the government can do. They can do pioneering work, action research or investigation in difficult areas and among the deprived sections of the society. They can act as coordinators at the receiving end for the various services rendered by government. They can also convey the people's point of view to the authorities. By retaining their perfect independence and autonomy, these organisations can provide the expertise and technical assistance for educating the rural community.

Inter and Intra-agency Coordination

The problem of rural transformation cannot be solved without giving the process of change the support of structural changes which would effect inter and intra-agency coordination and also provide initiative to people at the group level. We see today that most of the optimum results are not achieved – inspite of heavy investment – in the rural areas because of lack of exploitation.

Intra-agency Coordination is required for effective communication of the policy from top to the bottom level and feedback from the bottom to the top so that governmental policies could be realistically framed.

Inter-agency coordination is necessary between government departments and various other official, non-official organizations which are engaged in rural development. A coordinating machinery at all levels from the Centre to the village level is also required. The coordination at the receiving end could be done by 'pressure groups' of disadvantaged people. These groups can indentify their own problems and suggest solutions.

Conclusion

The major weakness of educational planning in India has been that it has neglected the urgent problems of transforming our educational system to suit the life, needs and aspirations of the people so that it becomes an important instrument of national development.

If we look at the basic programmes which can transform the existing system of education and make it more intimately related to national development, they are asunder:

"1. Education should deepen national consciousness and promote national integration; curricular and co-curricular programmes should be designe promote a proper understanding and appreciatio our cultural heritage, a great knowledge, understan and appreciation of the different regions of the cou and faith and confidence in the future.

2. The common school system of education sh be adopted at the primary stage to put an end to segregation that now takes place between the sch for the 'haves' and the schools for the 'have-nots'.

3. There should be a great emphasis on scie education; science should become an integral par general education till the end of Class X and its qu should be improved at all stages; scientific rese should be promoted and related more intimately to development of agriculture and industry.

4. Work experience and national or social ser should become an integral part of education at stages.

5. Secondary education should be vocationali and made largely terminal.

6. Professional education should be expanded improved at the university stage.

7. An appropriate language policy should developed which should include, among other thin programmes for the development of modern Ind languages and their use as media at all stages of edu tion, a more intensive cultivation of international guages other than English, and promotion inter-regional contacts through a more intensive st of all the modern Indian languages in each lingui region.

8. The school and the community should be brou together in programmes of mutual service and supp

9. The education level of the common citizen sho be substantially raised by liquidation of adult illiter and provision of good and effective primary educa to all children, and secondary and higher educa should be so developed as to create an intelligen adequate in size and competence, and drawn from social strata; and

10. Emphasis should be placed on character for tion, on the cultivation of moral and spiritual values on the development of a sense of social responsibil

The priorities have to be determined at three le – national, state and local. Programmes of natio significance such as vocationalization of secon education could be regarded as a national pri ning thereby that decision should be taken by the e in consultation with the states.

certain other matters, for example the question of iding amenities in schools, a system of local ities may be adopted.

o conclude, we could say that while determining the ities in educational planning, the main objective ld be as visualized in the Education Commission ort which is reproduced below:

he most important and urgent reform needed in ation is to transform it, to endeavour to relate it to fe, needs and aspirations of the people and thereby it a powerful instrument of social, economic and ral transformation necessary for the realization of ational goals. For this purpose, education should be developed so as to increase productivity, achieve social and national integration, accelerate the process of modernization and cultivate social, moral and spiritual values".

Education, thus can be the key instrument for rural development.

References

1. Coombs, Philip. **Attacking Rural Poverty.**
2. Education Commission (1964-66). **Education and National Development.**
3. Jansen, K. **Educational Planning : The Asian Experience**
4. Malassis, L. **The Rural World.**
5. Naik, J.P. **Education in the Fourth Plan.**
6. University Grants Commission. **Development of Higher Education in India : A Policy Frame.**

Universities and Continuing Education

(Contd. from page 1)

ublic health, sanitation, population control and ing up of national solidarity. They can also take up nisation of programmes which will prepare the rs in civil and political life, along with helping to the standard of tastes as well as habits of life and l behaviour of the people.

he University Grants Commission also attaches priority to the vital role which universities can play eveloping meaningful programmes of continuing ation. It has clearly stated that it is only through a ramme of continuing education that a university nteract with the community at large and thus assist ultural and socio-economic advancement of the ty and make its own teaching programmes and ses of study more relevant, responsive to fast chang- eed and of resilient character.

esides discovering and spreading of knowledge and ucting of research, universities have another role ay—extending knowledge to the community as a nuous process. Maintained by the community, ersities should not remain isolated from the stream of national life. They should fulfil their ations to the community at large, in its socio- omic, cultural and educational advancement and entrate on areas in which they have superior how and comparative advantage. Programmes ld be oriented towards the removal of poverty, ction of disparities, updating of knowledge and , participation in development and fulfilment of educational needs to make them more meaningful e people. For better organisation two committees d be formed; one consisting of academicians and ther comprising representatives of the community. ures, discussions, classes, seminars, summer schools, audio-visual aids etc. could be used in programmes of continuing education with flexibility in relation to the resources, expertise of the university and the need of the community.

The universities can throw open their doors outside the regular working hours to provide such courses of instruction as they can for the benefit of those who are desirous of receiving education. Evening classes can be held for those who can spare a few hours in the evening in order to enable them to qualify for certificates,diplomas and degrees. Even short courses on effective business correspondence, photography, electronics, conversational English, Batik painting, architecture, child psychology, child care, health, food nutrition and diet and fine arts could be organised by the universities. The services of the university staff members or their wives who have such qualification or known hobbies can be obtained on some honorarium to run such courses.

Thus, the universities can play a vital role in fostering continuing education thereby forging a close link between the seats of higher learning and the corridors of community. By taking up various training orientation and refresher courses— short term and long term — which are relevant to the felt needs of the community, the universities would be putting its infrastructural facilities, including buildings, to a proper and full use. We cannot afford the luxury of using the classrooms and other physical facilities only for a few hours a day catering only to one section of the society. With the introduction of continuing education programmes in most of the departments, the universities would be fully utilized for various social and economic purposes of the community.

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be Contacted
July 21-26, 1991	Seventh International Meeting of University Administrators	Themes to be discussed are: (i) Standards of Professionalism in University Administration; (ii) International Cooperation; and (iii) The Entrepreneurial University	Conference of Registrars and Secretaries and Conference of University Administrators of the United Kingdom	Dr. F.C. Verschoor, Chairman, Organising Committee, Congress Bureau, University of Twent P.O. Box 217, 7500 AE Enschede, The Netherlands
August 19-30, 1991	International Course on Planning and Design of Pumping Works	To provide fundamental knowledge on pumping systems and comprehensive approach to planning and design of pumping works	Asian Institute of Technology, Bangkok, Thailand	Mr. Wiboon Boonyatharokul, Program Specialist, Continuing Education Center, Asian Institute of Technology, GPO Box 2754 Bangkok-10501 Thailand
Sept. 16-20, 1991	Regional Symposium on Educational Testing	Theme : Reforms and enhancements in educational testing system, test contents and formats in a country (or region)	The National Education Examination Authority (NEEA), People's Republic of China	Mr. Yang, Xuewai, Director, National Education Examinations Authority (NEEA), State Education Commission, 30 Yu Quan Road, Beijing 100039, The People's Republic of China
Sept. 17-18, 1991	Fourth Annual Conference of the Asian Association of Open Universities	To explore the need, desirability,practicability and relevance of face to face components in Distance Education	The Open University of Sri Lanka, Colombo, Sri Lanka	Ms. C Suriyapperuma, Organising Secretary, AAOU Conference, Open University, Box 21, Nugegoda, Sri Lanka
December 9-26, 1991	Winter School on use of Statistical Software	To introduce college and university teachers to computer-oriented statistical methods and to train them in the use of statistical software packages.	Indian Statistical Institute, Calcutta	The Course Director, Winter School on use of Statistical Software, Computer Science Unit, Indian Statistical Institute 203, Barrackpore Trunk Road, Calcutta-700 035
December 14-16, 1991	International Conference on Man & Environment	To discuss issues concerning the future of man and preservation of the unique planet earth	Motilal Nehru Regional Engineering College, Allahabad	Dr. R.K. Srivastava, Organising Secretary ICOMEN - 91, Department of Civil Engineering, Motilal Nehru Regional Engineering College, Allahabad - 211004

CONVOCATION

Technological Revolution

We have remained as a developing country for nearly 50 years ow. This means aid seeking and technology seeking country. Ve have to revolt against this status. We can transform our ation into a developed country in 20 years time only through Technological Revolution", said Dr. A.P.J. Abdul Kalam, Director, Defence Research and Development Laboratory, Hyderabad. Dr. Abdul Kalam was delivering the Convocation Address at the thirteenth convocation of the Institute of Technology as part of the seventy third convocation of the Banaras Hindu University. Excerpts

irty three years ago, when I had got my engineering diploma the then Madras Institute of nology, what opportunities in front of us those days? Just cade had passed after freedom country was still in planning . Food production was at low Indian ports were awaiting PL ships with wheat supplies, very gre production of oil, no aircraft lopment programme, no space omic energy programme and no Industrial infrastructure. ay, that is in 1991, in front of you e is a much better picture. We self sufficient in food due to ex- ent contributions by the Agricul- l Scientists and farmers. We e important programmes in mic energy, space, defence sys- s, fairly good oil production and ll developed industrial com- xes and scientific institutions.

There are multiple challenges for u, friends. We have to double our d production to 300 million tons d nuclear power production to ch 10000 MW in addition to the ermal and hydro-electric by the d of this decade. Networking of dian rivers is also a big challenge. We have to launch our communication satellite using our own geosynchronous launch vehicles from our soil. We are producing only 60% of country's oil needs. How do we become self-sufficient in all fronts? Out of our annual budget of Rs.100,000 crores, foreign exchange deficit is Rs. 10,000 crores. These challenges can be met only through technology as a tool.

India's Technological Strength

(a) *A Large Rocket Booster from ISRO:*

The technology springs from campuses of academic institutions. A few of my close friends and associates are from BHU. I always admired at the unique culture in thinking and human behaviour of these men. Prof. Brahm Prakash, a renowned metallurgist, father of nuclear materials in the country, was associated with BHU for setting up of the Centre for Advanced Studies in Metallurgy at BHU. He was also my great teacher. He introduced in the ISRO's Vikram Sarabhai Space Centre what is called 'Management by Nobility'. I would like to recall one of his major decisions on choice of material with high specific strength Maraging Steel for rocket motor casing of PSLV booster which is one of the three largest boosters in the world. A high level Technical Committee was formed with Prof. Brahm Prakash as Chairman with a few of us as its members. He had to lead to a major decision, as he was to make a choice between the proven technology of low Carbon alloy steel with less strength and M-250 high specific strength steel alloy which was not fully proven at that time. How did he make the decision when normally many like to go in a beaten path? With his foresight and knowledge of materials and metallurgy, Dr. Brahm Prakash, after series of experiments as well as industrial inputs and discussions led the Committee to opt for Maraging Steel for PSLV booster. Today, the PSLV booster is unique in the world with diameter of 2.8 m, length of 20 m carrying 125 tons of propellant. MIDHANI, a defence PSU, is producing Maraging steel which is used in atomic energy, missiles and large rocket motors for space. The vital decision taken by Dr. Brahm Prakash with his vision in 1981 has led our country to produce this strategic material by industry and there are large booster motors.

(b) *Young Scientists and Dynamics of R & D Labs:*

I would like to share with you a few experiences that we have gained from India's Guided Missile Programme of DRDO. The goal of the programme was set to design and develop four types of missile systems so that they are state-of-art, when they are developed in 1990's and let to production. The fifth project is the development of reentry technology for long range missile system. When the missile programme was sanctioned in July 1983, it was one of country's biggest development tasks. We needed excellent technical manpower in shortest period. How did we encounter this challenge? We realised in 1983, the earlier we inject young scientists as a part of our team, the faster would be the missile technology development. Six of us decided to visit academic campuses and enlist young graduates during April- June 1984. We presented to professors and aspiring students, about 350 of them, about the Missile Programme and requested them to join the programme. We were fortunate and within six months time, 280 young engineers joined and enriched our Labs. With this induction, the dynamics changed. It was a big experience for us. These young engineers completely changed the work culture. We were in a position to develop, through these young teams, re-entry technology and structure, millimetric wave radar, phased array radar, rocket systems and many more. The technology revolution is possible only through academic institutions, environment and the output of young engineers/scientists and managers.

(c) *Technological Strength Through Partnership of Multiple Institutions:*

The Missile Programme has partners in design, development and production from 12 academic institutions (50 Professors and 100 Research Scholars) and 30 Laboratories from DRDO, CSIR and ISRO and Industries. The quality of work, through this partnership has given us confidence — "Any development task can be done within the country cost effectively and with schedule focussed". Let me highlight a few contributions for various missile systems. PRITHVI is a surface-to-surface inertially guided missile system. To reach the target accurately, the trajectory parameters have to be loaded on to the brain – the onboard computer. The required robust guidance algorithm was developed by Jadavpur University. AKASH is the multi-target surface-to-air missile system for which air defence development software was developed by a team of Professors from Indian Institute of Science. The re-entry vehicle system design methodology was developed by a team at IIT, Madras, and DRDO. Osmania University's Navigational Electronics Research and Training Unit's team has developed state-of-art signal processing algorithms for third generation anti-tank missile NAG. Academic community's participation has resulted in achieving advanced technological goals. I have only given sample cases of collaborating endeavour. Our strength in missile technology is active partnership of multi-institutions.

(d) *Certain Results from AGNI Project:*

One of the big lessons that we have learnt in the missile programme is that active interaction with multiple institutions establishes a technology base in record time by using already generated technological strength and facilities. I would like to narrate to you a very important breakthrough we made. AGNI is a two stage rocket system to develop re-entry technology for the first time in the country. AGNI flight system is boosted by firststage solid rocket motor derived from SLV - 3 and further accelerated by second stage with liquid rocket engines from Prithvi missile. For AGNI kind of mission the payload gets delivered at hypersonic speeds which calls for design and development of re-entry vehicle structure. The payload with guidance and electronics is housed in the re-entry vehicle structure. The re-entry vehicle structure is meant to protect the payload by keeping the inside temperature within the limit of 40^0 C, when the outside skin tempera-
ture is greater than 2500^0C. An
ertial Guidance system with
board computer guides the pay
to the required target. For re-e
missile system, 3D/4D directi
preform is core material for ma
Carbon-Carbon nose-tip that
maintain high strength at eleva
temperature (above 2500^0 C).
three other countries h
developed such type of prefor
In 18 months time, four laborator
of DRDO and CSIR developed
required preform. This prefo
has been used in AGNI heat sh
environment.

In the launch complex, speci
built for AGNI system at Inte
Test Range at Chandipur, there
multiple radars, telemetry statio
electro-optical systems, contr
centre, launcher and checkout co
plex. The ITR computer centre
networked with the comput
centres at Sriharikota Test Ran
linked through INSAT syste
Throughout flight of AGNI eith
ITR or SHAR range were tracki
the vehicle and communicating
parameters to the Mission Contr
Centre in realtime. During the i
pact of the payload, the data w
obtained from ship-borne tracki
and telemetry stations and from s
tion at Carnicobar. In all, over
channels of measurements, givi
realtime information on the missi
were monitored throughout t
flight. Working together with mul
ple organisations led to sharing
experiencesand technology streng
and also overcoming problem
Multiple technology and scien
departments and academic insti
tions have worked together. SHA
Computer with radar and telemet
networked with all ground statio
through computers. Air Force h
provided operational suppo
during the launch campaign a
also for airlifting the booster. Ar
provided support in specialise
areas including medical cover,

work involved was with exves, propellants and hazardous iicals. I have highlighted how a force approach with technical iership from multiple organisais effective to realise the high product. This approach can be l for many other technology rammes,

m "Developing country" to eloped country" – When and ?

n 1986, when the missile gramme was in advanced stage levelopment, seven developed ntries joined together and introed Missile Technology Control ime (MTCR). This means the nology, materials, devices and ipment related to important sile systems were banned to ia. We overcame this embargo ough consortium approach inving academic institutions, instry and Labs. We have veloped devices like Impartt des – RF power source for ject NAG, phase shifters for ASH radar and established selfficiency in vital areas of missile hnology in two years time.

We have already discussed the llenges to be met in the case of clear power production, food oduction, aerospace etc. We ve remained as a "developing untry" for nearly 50 years now. is means aid seeking and technoly seeking country. We have to volt against this status. We can ansform our nation into a veloped country in 20 years time ly through "Technological evolution". We have seen that chnological revolution has already ken place in a small scale in some eas.

From my experience and associan with aerospace technology for ree decades, I feel that Aerospace chnology can be the vehicle for tting the pace for this technology revolution. It is the cutting edge technology and highly multi-disciplinary in nature (like material technology, computer technology and almost all branches of engineering and science), with potential for multiple missions. Already, an investment of about Rs. 5000 crores has been made in various aerospace programmes and another Rs. 5000 crores worth infrastructure exists. Let us use this to our advantage. I have already shared with you some of the experiences and lessons learnt in the missile programme. In Aerospace technology, what is in store beyond 1995?

An advanced research and technology centre called Research Centre Imarat, was commissioned in Aug. 1988 in Hyderabad, for the future advanced missile programmes and technology products. It has its main focus on research in high tech system centres like Inertial Navigation, Guidance and Control laboratories, the Seeker Head Lab. and Integration and Checkout Lab. RCI will specialise in re-entry and terminal guidance areas to take the payload to required target, high energy propulsion systems including supersonic combustion and heated hypersonic flow experiments for future missions.

Futuristic programmes need development of devices using either Silicon or Gallium Arsenide. SPL of DRDO and SCL are jointly setting up a Gallium Arsenide foundry to provide the devices and circuits to support the aerospace programmes. Research base is vital and to meet this, a Joint Institute of Advanced Technology will be started this year with the collaboration of Indian Institute of Science. Government has sanctioned this programme and we plan generating many Ph.Ds in specific technology areas. RCI also houses variety of environmental test centres, some of which are unique like high frequency EMI/EMC facility and accoustic emission test facility. We visualise RCI as a synthesizer of research, development, integration/checkout and technology transfer for advanced missile systems. We invite you to join in this venture, as the first phase of technological revolution.

Young friends, the opportunities are ripe and you will be at the right spot at the right time. In conclusion, I would like to invite you, to join in the national development, that demands technological revolution in mind and actions of young members. Let us have confidence that we can do it. Our experience clearly indicates that we have done it in many fields. Of course, when there is a challenge, there will be problems and we have to overcome them. Our experience is – we can do it. Our strength is technology. Technology Revolution can be a vehicle to upgrade our strength, selfworth and quality of life.

We Congratulate....

1. **Dr. B.B.L.Saxena who has taken over as Vice-Chancellor of the Meerut University, Meerut.**
2. **Dr. M.V.Rao who has taken over as Vice-Chancellor of the Andhra Pradesh Agricultural University, Hyderabad.**
3. **Prof. Habib-Ur-Rehman who has taken over as Vice-Chancellor of the Agra University, Agra.**
4. **Dr. K.Nagappan who has taken over as Vice-Chancellor of the Alagappa University, Karaikudi.**
5. **Dr. Raj Lalan Singh who has taken over as Vice-Chancellor of the Guru Ghasidas Vishwavidyalaya, Bilaspur.**
6. **Dr. Baboo Ram Sharma who has taken over as Vice-Chancellor of the Dr. Yashwant Singh Parmar University of Horticulture and Forestry, Solan.**

Productivity and Impact of Research

The National Academy of Agricultural Research Management, Hyderabad proposes to organise a workshop on "Productivity and Impact of Research: Scientometric/Bibliometric Measures and influencing factors" from June 25-29, 1991. The objectives of the Workshop are :- i) to expose the participants to measurement tools for evaluating research performance; (ii) to develop awareness on the use of bibliometric and scientometric applications; (iii) to recognise the importance of citation analysis in measuring performance of science establishments; and (iv) to indicate use of bibliometric techniques to study aspects of communication in science.

The topics proposed to be discussed include (i) Inputs, outputs and outcomes in the research process; Bibliometrics and scientometrics approaches; (ii) Bibliographic databases, SCI and other tools; (iii) Productivity: Author productivity ; Institutional productivity; Literature growth; Ortega hypothesis; (iv) Macro and Microbibliometrics : National analysis; Institutional productivity and impact; Bibliometric vs other methods; (v) Diffusion of ideas; informal communication; Gate keepers; invisible colleges; (vi) Interconnections among research groups and disciplines; (vii) Obsolescence and scatter of the literature of science; (viii) Citation behaviour; bibliographic coupling; co-citation and tracing history of science; and (ix) Bibliometric and scientometric indicators of progress in science and application of agricultural science research indicators for development.

The programme consists of a blend of special presentations by the facilitator and the faculty, group discussions, case studies, hands on experience, problem solving through exercises etc., which will provide an opportunity to learn about application of bibliometric and scientometric measures in agricultural research.

Prof. F.W.Lancaster, Graduate School of LIS, University of Illinois, USA who is the FAO/UNDP consultant would facilitate the workshop.

Further details can be had from Mr. Ravi B. Gaddagimath, Coordinator & Librarian, Information and Documentation Unit, National Academy of Agricultural Research Management, Rajendra Nagar, Hyderabad 500 030.

CAMPUS NEWS

ISI Winter School

The Indian Statistical Institute, Calcutta, proposes to organise a three-week Winter School on 'Use of Statistical Software' from 9-26 December 1991. The object of the School is to introduce college and university teachers to computer-oriented statistical methods and to train them in the use of sta tical software packages. Applica wishing to participate in the Sch should have a Master's degree Statistics from a recognised Univ sity and be engaged in teachi and/or research in Statistics at t University level. Preference will given to those teaching at t postgraduate level and to those w some experience in the use of com puters. Standard statistical pac ages like the BMDP, IMS MINITAB, NAG and SPSS will dealt with. Topics to be discussed the School will include Linear an Nonlinear Regression Analys Discriminant Analysis, Clust Analysis, Factor Analysis, Tim Series Analysis, Discrete Mult variate Analysis and Multivariat Analysis of Variance. Participant will be expected to know the basi methodology of these technique only recent developments and spe cial aspects of these topics imple mented in the packages will b discussed in the methodologica part of the School. The School wi mainly concentrate on the use of th various packages for data analays and to study their relative merits fo each analysis. Instruction will con sist of lectures followed b demonstrations and hands-on ses sions. Participants will get ampl opportunity to use the comput and the packages for practice. Par ticipants are invited to bring the own data sets for their practice ses sions.

Further details may be obtaine from the Course Director, Winte School on Use of Statistica Software, Computer Science Un Indian Statistical Institute, 203 Bar rackpore Trunk Road, Calcutt 700 035. The last date for receipt o applications in the prescribe proforma is 30 August, 1991.

News from Agril. Universities

all to Improve Per Unit Crop Yield

. Sukhdev Singh, Agricultural ction Commissioner of the nment of India said that the ltral growth rate of India was w, even lower than our neigh- country Pakistan's growth rate. rther said that it was very im- nt to increase the production dgrain crops to feed the in- ing population. He was ad- ing the faculty and students of unjab Agricultural University tly.

r. Singh said that the farm ction could be increased by cing the cost of inputs as it d improve the profits of the ers. He further said that taxes w material like steel, iron and inery was being paid by the ers. He emphasized that ef- should be made to improve nd farming. He said that ir- ed farming should also be given ial importance for improving nit yield of the crops. He dis- d that the present technical s of agricultural development ers was not of that level which required for helping the ers. He urged that field of- s should act as plant doctors their offices must become plant s.

r. Khem Singh Gill, Vice Chan- r of the PAU narrated that one e reasons for success of agricul- in Punjab was the close coor- ation between University ntists, field officers and the ers. He congratulated Mr. dev Singh who had played a ficant role in promoting these tions and was also responsible making efforts to diversify culture. Credit went to him for ducing sunflower cultivation in jab and promoting sugarcane vation in the State, he added.

Training in Water Management

Training Unit of the College of Agricultural Engineering of Punjab Agricultural University (PAU) in collaboration with the Department of Soil and Water Engineering, organised a five day training programme on 'On Farm Water Management' for the officers of the Department of Soil Conservation and Engineering, Punjab.

Speaking at the concluding function, Dr. G.S. Gill, Director of Extension Education of the Punjab Agricultural University stressed the need for water conservation and said that the wastage of water should be avoided through good management practices, selecting suitable crops for a particular land, avoiding flooding the fields, etc.

Dr. S.D. Khepar, Dean, College of Agricultural Engineering was of the view that the college of Agricultural Engineering and the Department of Soil Conservation and Engineering benefit from each other through such programmes.

According to Professor Mangal Singh, Incharge of the Training Unit fifteen participants including Assistant Soil Conservation Officers and Soil Conservation Inspectors attended the training programme during which they were explained the importance of water conservation through various irrigation methods and criterion for evaluating their performance in addition to land levelling and other design methods and such equipments.

New Combine Harvester

Dr. Khem Singh Gill, Vice-Chancellor of the Punjab Agricultural University inaugurated a demonstration of a new combine harvester at Jaitu in Faridkot district recently. The unique feature of this combine is that unlike other combines it provides 80 per cent of wheat straw (Bhusa) in packed form in addition to wheat grains.

Speaking on the occasion, the Vice-Chancellor said that our artisans were not less competent as compared to the best engineers of the world and the day was not far off when our combines and threshers would be in great demand all over the world. Dr. Gill assured that the services of the agricultural engineers and experts of the PAU would be made available to the institutions engaged in the development of farm machinery.

Giving details of the new combine, Mr. Shemsher Singh, who manufactured the combine, said that the new combine would help removing the shortage of bhusa in the northern part of the country and would also help in reducing the cost of production.

News from UGC

Countrywide Classroom Programme

Between 17th June to 24th June, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

1st Transmission

1.00 p.m. to 2.00 p.m.

17.6.91

"The Fictitious Forces - Their Origin"

"Contract Act - I"

"Bonsai : The Green Dwarfs"

18.6.91

"Using the Heat of Combustion Apparatus"

"Communication Satellites"

"AIDS - I"

19.6.91

"Solar Research - III"

"Man and Environment "

"Principles of Biosystematics - II, Principles of Classification "

20.6.91

"Computer Assisted Learning"

"Portrayal of a People"

"John Clifford on William Shakespeare"

21.6.91

"Parabola : Lecture by Prof. V. Kannan"

"The Shadows of Thought"

"Learning From Nature - I : Neglected Nectar"

22.6.91

"A Talk With Prof. Mock"

"East Meets West"

"Musical Notes and Their Origin "

23.6.91

No Telecast

24.6.91

"Vibrational Spectroscopy"

"Contract Act - II"

2nd Transmission

4.00 p.m. to 5.00 p.m.

17.6.91

"Frozen Moments"

"Inflation and Price Control - I"

"Sustainable Agriculture by Daring Farmers - I"

18.6.91

"The Life of William Shakespeare"

"How to Stand on Giant Shoulders - I"

"History of Tuberculosis - I"

19.6.91

"Geothermal Energy Sources"

"Indo-Roman Trade - I : Bronzes and Glass"

"Desert Locusts - The Farmers' Foe - II"

20.6.91

"Computer Based Training & Interactive Video Disc - I"

"Basic Camera Controls"

"Towards Better Spoken English -I"

21.6.91

"Why Statistics?"

"Earth Day Special - Without Borders-II"

22.6.91

"The Human Comedy - II"

"Naad Sagar Manthan - II"

"Venturing Out With Photography"

23.6.91

No Telecast

24.6.91

"History of Inventions - I "

"Entrepreneur and Enterprise - VI "

"Sustainable Agriculture by Daring Farmers - II "

News from Abroad

Training of Educational Administrators

A Survey Report

The International Institute for Educational Planning (IIEP) held a seminar attended by some 20 heads of educational planning and administration (EPA) training institutions and programmes in developing countries.

The objectives of the meeting were: (i) to analyze quantitative and qualitative training needs at different levels of the national education systems; (ii) to discuss methodological approaches to identifying these needs; (iii) to examine ways and means of strengthening national capacities for the training of educational planners and administrators; and (iv) to reflect on possible means of bilateral or multilateral co-operation between IIEP, UNESCO and its Regional Offices, and the institutions represented at the meeting.

The IIEP, whose activities are based to a very large extent on co-operation with a number of partners throughout the world, aims to increase and formalize this co-operation with training institutions and programmes in developing countries.

Prior to the seminar, the IIEP had conducted two surveys in order to gather information on the present situation of EPA training: one among about 100 Ministries of Education, the other among 300 training institutions. The purpose of these surveys was : (i) to invesate existing practice with regard the training of EPA personnel in ferent regions of the world, and) to collect information on the ining needs — both qualitative d quantitative — of the officials volved in educational manage- ent at different levels of the sys- m.

The surveys revealed a wide gap tween supply and demand where ch training is concerned; they owed the inadequacy of its supply, d the difficulties and obstacles in- lved in the improvement of the aining provided by reason of the ortage of qualified national in- ructors, teaching materials, and nancial resources.

The seminar threw light on the iversity of training situations and pproaches of different institutions d programmes; it also provided opportunity for exploring certain ends common to all such institu- ons.

One of the factors contributing in rge measure to the diversity of aining situation is unquestionably he level of educational develop- nent of the countries concerned, hich on the one hand affects the ature of the EPA training system nd on the other gives rise to certain riorities of educational policy, and onsequently to an order of impor- ance of EPA training require- nents.

Depending on each particular in- titution, divergences of basic ap- roaches were revealed in the definition of training strategies. Several participants stressed the need to define the objectives of EPA training in the light of the aims, priorities and constraints of the educational policy of each country, which itself depends on a social consensus of the country. It was also emphasized that the training provided by a country's various training institutions should form part of a coherent educational policy, of purposes and activities. Other participants made reference to more 'technocratic' approaches consisting of describing training objectives in terms of statistics relating to the number of 'graduates' or 'qualification-holders' per speciality and level of training. However, during the discussion it was asked whether a national EPA training policy can be defined in the abstract, without explicit reference to the objectives and the conditions for drawing up a national educational policy.

The seminar revealed a wide diversity of training strategies. In the case of some institutions, the tendency is towards the diversification of trainees, of training objectives, of forms of training, and of teaching materials. Other institutions try to diversify training programmes, content and methods (often using distance education) in order to allow for the needs of their various categories of trainees. Others again, to cope with budgetary restrictions, attempt to target their clienteles and to make the training of trainers one of the priorities of their training programme, thereby aiming to reach the greatest number by providing 'cascade' training activities.

The diversity of situations formed a backcloth to the analysis of the training needs of institutions. The discussions covered strategies which could help to establish a clear methodology in this field, including those trends in the environment and in the education system affecting the types of skills which educational administrators and managers must possess.

Discussion of teaching materials and formats confirmed the significance of the trend to make the supply of training more flexible. Several institutes and programmes have developed or intend to develop distance learning. The objective mentioned by several participants is to reach key staff in outlying regions, with a view to serving the cause of basic education for all. In addition, the development of distance learning modules, as self-teaching materials for use prior to an on-site training programme, was proposed by one participant as an appropriate way of enhancing the effectiveness of the learning process.

Turning to teaching methods, participants expressed their concern that 'conventional' methods, with lecture type courses, continue to predominate in many institutions. They expressed the wish to see approaches diversified, in particular through the adoption of more active methods and the use of round tables, workshops, group discussions, etc.

Along the same line of thinking, some participants stressed the need to strengthen training in research methods. Some medium and long duration training programmes already make provision for the drafting of a research paper at the end of the training period, which is sometimes aimed at solving a specific problem. In this connection, it is essential to have trainers of very high quality.

A last point taken up in the discussion had to do with the content of training offered, which is directly related, of course, to the target clientele. Here too, according to the participants in the seminar, diversification is the current trend. Whereas until just a few years ago teaching concentrated almost exclusively on quantitative approaches to EPA, one currently observes that more and more attention is being paid to qualitative aspects in research and training. In addition, the training of administrators is giving more and more room to management concepts, although not at the expense of the traditional technical approaches.

While a whole range of possibilities of collaboration was covered in the course of the discussions, the participants' views on training needs were focussed mainly on the prime necessity of ensuring, first and foremost, the training of trainers and the implementing of a policy of exchanges and/or joint production of teaching materials for various types of training. It was pointed out that such objectives suppose the creation, in an initial stage, of a data-base providing information on the types of EPA training offered by each institution, the materials employed, the types of research, the current innovations. IIEP will establish a data base of training institutions at the international level; other institutions could ~~do~~ the same at regional (as in the case of UNESCO's BREDA for sub-Saharan Africa), sub-regional and national levels.

As for the IIEP's role, participants would like to see the IIEP's assistance intensified in the following areas :

- formulation of a methodology aiming at the identification of national training needs;
- joint elaboration of training of trainers programmes;
- organization of courses and seminars;
- dissemination of teaching materials and documents;
- establishment of bibliographies;
- evaluation of the quality as well as of the result of teaching materials and training courses;
- management of a data base on training institutions.

A number of training institutions and programmes are already cooperating actively with IIEP (KEDI, INNOTECH). Others are considering entering into co-operation with IIEP for setting up operational activities in the near future. For example, collaboration programmes are currently being established between the Institute and training institutions in various countries (Brazil, India, Morocco, Mozambique) with a view to creating a network of institutions, the need for which cannot be under-estimated.

Blueprint for French Higher Education

France's blueprint for mass higher education by the turn of the century, unveiled by education minister Lionel Jospin recently includes seven new universities, five new engineering schools and massive expansion of university institutes of technology.

The important element yet to be revealed before Universite 2000 is adopted by the government in July is exactly what share of the £1.6 billion funding will go to each institution.

After 14 months in the ministerial pipeline, regional and national consultative conferences, the plan has emerged with just one major policy change and a marked move towards regional involvement in higher education.

The initial draft of Universite 2000 aimed at providing at least some higher education in all towns of more than 50,000 inhabitants by setting university annexes. These would have provided some of the two-year, mainstream courses which can lead to a degree and which most French students enter.

However, this idea has been scrapped and instead there is t an expansion of university insti of technology, these special dep ments provide much sought a two-year diploma courses w restricted student numbers, un mainstream courses where stud to teacher ratios can reach 50:1.

Under the plan, 50,000 n places in the institutes will m than double their capacity wi five years. There will be 20 n UIT's in towns which would ha had a university annexe under t original plan and 160 new dep ments in existing institutes.

The policy change reflects both strong student demand for sho professional courses and the su cess of institute diplomas on the j market. The plan also launches fi new engineering schools as part of government pledge to double th number of engineers qualifying France each year.

One aspect of the expansio which has been scaled down is th number of new universities. Apa from the four already promised f the Paris region, there will be ju two in northern France and one La Rochelle instead of the expecte dozen new ones.

The Paris region which has th worst student overcrowding, is ab to get a quarter of the plan's £1 billion budget and 40 of the ne technology institute departments.

We Congratulate...

Prof. Ramlal Parikh, Vice-Cha cellor, Gujarat Vidyapith an President, AIU who has bee awarded the 'Gangasharan Sing Puruskar' for his outstanding con tribution to the propagation Hindi.

A Useful Contribution

Girja Kumar*

Gupta, B. M. Ed. Handbook of Libraries, Archives & Information Centres in India. Vol 9 Humanities Information Systems and Centres (in 2 pts). Delhi, Aditya Prakashan, 1991, viii, 489pp. Rs.325.00.

he series *Handbook of aries, Archives and Information res in India*, now in its ninth me, is a remarkable achieve- t by indian standards, more so use it has been the product of ntary effort of an individual per- . The gap should have been d in the normal circumstances national institution like the In- n Library Association. The es thus suffers from the hand- s of the individual effort. It st have been a feat to bring ether sixty contributors for owing light on the historical elopment of as many institu- s. The contributions are uneven quality. Barring such lacuna, the sent volume is an improvement r the previous one dealing with ial Science Information Systems Centres in India.

The whole panorama of institu- ns is paraded before us.The uda Baksh Oriental Public brary (Patna), Thanjavur aharaja Serfoji's Saraswati Mahal rary, Carey Library (Serampur), nskrit College Library (Calcutta) d the Bhandarkar Oriental Re- arch Institute are great treasure uses. The whole history of In- an culture and civilization has en reconstructed in the volume. e names of Warren Hastings, illiam Carey and Mountstuart Elphinstone are mentioned in several articles underlying the great British contribution to classical studies in India. A bit of scholastic history of India has been revived through the instrumentality of the Handbook.

Many of the contributions are good enough as a mere record. Some of the them are of pure and simple pedestrian nature; What is one to make of the statement, "The library follows Dewey's Decimal Classification scheme and maintains a Dictionary catalogue according to Anglo - American catalogue rules". Librarians can be depended upon to be mane as evidenced by several contributions with emphasis on enumeration as in a catalogue. There are however, a few exceptions. The article on the Royal Library of Bijapur by S. Quraishi is the piece de resistance. The Royal Library belonging to the Adil Shahi dynasty exists no more. The article revives the medieval days and the scholarship before our very eyes. The piece has literary qualities, besides being a deeply researched as a model piece of writing. Sad to say, the same cannot be said of many other contributions in the volume.

Undoubtedly the libraries and archives in the field of humanities are the richest. No work on Indic civilization is possible without access to the collections located in India.

The quality of services and organisation have been deteriorating in recent years. Professional expertise is totally lacking. Such libraries and archival centres are now models of bureaucratic organizations. One can sense the declining standards by reading between the lines of the contributions. Imbalances have also begun to be developed. The inputs that are going into the newly established Indira Gandhi National Centre for the Arts are disproportionate to the total resources intended for the entire field of the humanities. The old-time rich depositories have already begun to look like poor cousins.

Comparatively speaking the coverage in the Humanities Volume is comprehensive. There are still too many gaps that need to be filled up. Quite a number of important institutions are missing from the roll of honour. These include the National Archives of India, National Gallery of Modern Art, National Museum and the National Films Archives of India. Surprisingly the three academics namely, the Sahitya Akademi, Sangeet Natak Akademi and Lalit Kala Akademi, are missing from the list. Similarly the great collections on Indology and Sinalogy like Cheena Bhavan, Sampurnanand Sanskrit University and the Tulsi Sadan are also not to be found. Surprise omissions also include the Bharat Kala Bhavan, Baroda Museum and Picture Gallery and the Mythic Society. These gaps need to be filled up in the next edition.

Another lacunae that needs to be recognized is the lack of any evaluation in the volume. It is difficult to paint an objective picture of the existing situation without an evaluatory statement. The editorial Preface is inadequate for the purpose. With all the gaps, the volume is a useful contribution to a neglected field.

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ormer Librarian, Jawaharlal ehru University and President, In- an Library Association.

AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The Library has also developed Bibliography of Doctoral Dissertation as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in bibliography. Such Universities as are not sending us regular information in respect of Doctoral Theses accepted and research scholars enrolled are welcome to make use of these columns.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from periodicals received in AIU Library during May 1991

EDUCATIONAL PHILOSOPHY

Jones, Russel C and others. Building US economic competitiveness : The Land-Grant model. **Change** 22(3), 1990, 10-7.

EDUCATIONAL PSYCHOLOGY

Duckwall, Julia M and others. Approaches to learning by undergraduate students : A longitudinal study. **Research in Hr Edn** 32(1), 1991, 1-13.

Kansal, M R and Kiran Deep. Teacher attitude towards educational administration as a correlate of value-dimensions. **J of Educational Planning and Administration** 3(3&4), 1989, 129-35.

Pike, Gary R. The effects of background coursework, and involvement on students' grades and satisfaction. **Research in Hr Edn** 32(1), 1991, 15-30.

EDUCATIONAL SOCIOLOGY

Joseph, Sarah. Indigenous Social Science Project : Some political implications. **Economic and Political Weekly** 26(15), 1991, 959-63.

EDUCATIONAL ADMINISTRATION

Barnett, Lawrence J. The blind lead the bland : Power-culture dominance in the academy. **Change** 22(3), 1990, 36-40.

Garg, V P. Developing threshold information system for educational planning and management at District level. **J of Educational Planning and Administration** 3(3&4), 1989, 85-97.

Jones, Peter and Lewis, Justus. Implementing a strategy for collective change in higher education. **Studies in Hr Edn** 16(1), 1991, 51-61.

Nilsen, Alleen Pace. How to read between the lines : A dictionary for modern administrators. **Change** 22(3), 1990, 46-7.

Scott, Peter. Beyond the dual-support system : Scholarship in the context of academic autonomy. **Studies in Hr Edn** 16(1), 1991, 5-13

Westergaard, John. Scholarship, research and teaching : A view from the social science. **Studies in Hr Edn** 16(1), 1991, 23-8.

CURRICULUM

Ediger,Marlow. Technical education and the curriculum **Progress of Edn** 65(9), 1991, 202-4,9.

Kramer, Martin. Curriculum reform : Rules of engagement **Change** 22(4), 1990, 54.

Mathur, Purnima. Present perspective of vocationalisation of education and its impact on technological changes : A synoptic outline. **Manpower J** 23(4), 1988, 49-57.

Miller, Margaret A and McCartan, Anne-Marie. At the crossroads : Making the case for new interdisciplinary programs. **Change** 22(1990, 28-35.

Reed, James W. Against the core : The Cheney report and the environment for learning. **Change** 22(3), 1990, 6-8.

TEACHERS & TEACHING

Bess, James L. College teachers : Miscast professionals. **Change** 22(3), 1990, 18-26.

Bootn, Wayne C. Art of deliberalizing : A handbook for the true fessional. **New Directions for Teaching and Learning** (44), 1991, -31.

Chism, Nancy Van Note and others. Teaching in a diverse en-onment : Knowledge and skills needed by TAs. **New Directions Teaching and Learning** (39), 1989, 23-36.

Lacey, Paul A. Encouraging and evaluating scholarship for the lege teacher. **New Directions for Teaching and Learning** (44), 1, 91-100.

Sprague, Jo and Nyquist, Jody D. TA supervision. **New Direc-ns for Teaching and Learning** (39), 1989, 37-53.

Staton, Ann Q and Darling, Ann L. Socialization of teaching istants. **New Directions for Teaching and Learning** (39), 1989, -22.

Weimer, Maryellen and others. Designing programs to prepare As to teach. **New Directions for Teaching and Learning** (39), 1989, -70.

EDUCATIONAL RESEARCH

Coker, Dana Rosenberg and Friedel, Janice Nahra. The data llection matrix model : A tool for functional area and program aluation. **Research in Hr Edn** 32(1), 1991, 71-81.

Morcol,Goktug and McLaughlin, Gerald W. Path analysis and sidual plotting as methods of environmental scanning in higher lucation : An illustration with applications and enrollments. **Re-arch in Hr Edn** 31(6), 1990, 555-72.

Snyder, Julie K and others. Factors contributing to research cellence. **Research in Hr Edn** 32(1), 1991, 45-58.

Terenzini, Patrick T and Pascarella, Ernest T. Twenty years of search on college students : Lessons for future research. **Research Hr Edn** 32(1), 1991, 83-92.

Underwood, David G. Taking inventory : Indentifying assessment tivities. **Research in Hr Edn** 32(1), 1991, 59-69.

EDUCATIONAL EVALUATION

Williamson,Gary L and others. Longitudinal analyses of cademic achievement. **J Edl Measurement** 28(1), 1991, 61-76.

SCIENCE EDUCATION

Williams, R J P. Science in universities : Teaching, research and utonomy. **Studies in Hr Edn** 16(1), 1991, 15-22.

VOCATIONAL EDUCATION

Attoe, Wayne and Mugerauer, Robert. Excellent studio teaching in architecture. **Studies in Hr Edn** 16(1), 1991, 41-50.

Misra, S P. Linkages between vocational education and industry : Opportunities for self-employment. **Manpower J** 23(4), 1988, 35-46.

ADULT EDUCATION

Apps, Jerold W. What should the future focus be for adult and continuing education? **New Directions for Adult and Continuing Edn** (44), 1989, 23-30.

Beatty, Paulette T and Robbins, Barbara P. The educative role of religious institutions. **New Directions for Adult and Continuing Edn** (47), 1990, 29-36.

Niemi, John A. Strengthening the field's impact within institutions of higher education. **New Directions for Adult and Continuing Edn** (44), 1989, 55-62.

Sisco, Burton R and Whitson, Donna L. Libraries : The people's university. **New Directions for Adult and Continuing Edn** (47), 1990, 21-8.

DISTANCE EDUCATION

Granger, Daniel. Open universities : Closing the distances to learning. **Change** 22(4), 1990, 44-47.

Guri-Rozenblit, Sarah. Distance/Open learning -- trends and developments as reflected in recent literature. **Studies in Hr Edn** 16(1), 1991, 83-90.

Hall, James W. Distance education : Reaching out to millions. **Change** 22(4), 1990, 48-50.

Heinzen, Thomas E and Alberico, Susan M. Using a creativity paradigm to evaluate teleconferencing. **American J Distance Edn** 4(3), 1990,3-12.

Stubbs, S Todd and Burnham, Byron R. An instrument for evaluating the potential effectiveness of electronic distance education systems. **American J Distance Edn** 4(3), 1990, 25-37.

COMPARATIVE EDUCATION & COUNTRY STUDIES

Can, Le Thac. Higher education reform in Vietnam, Laos and Cambodia. **Comp Edn Review** 35(1), 1991, 170-76.

Soljan, Niksa Nikola. The saga of higher education in Yugoslavia : Beyond the myths of a self-management socialist society. **Comp Edn Review** 35(1), 1991, 131-53.

Virk, Muhammad Latif. The universities of Pakistan. **A.C.U. Bulletin of Current Documentation** (95), 1990, 2-6.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

BIOLOGICAL SCIENCES

Anthropology

1. Singh, T Shyamacharan. **The Tai people of Assam : A physical anthropological perspective.** Dibrugarh. Dr M N Phookan, Prof, Department of Anthropology, Dibrugarh University, Dibrugarh.

Environmental Sciences

1. Ragu, K G. **Effect of organomercurial pollution in animals : Evaluation of biochemical changes in the central nervous system of rat with methylmercury and chelators.** Saurashtra. Dr P P Sood.

2. Saxena, Divya. **Studies on biodegrading microorganisms in the effluents of industrial waste at Jabalpur.** Durgawati. Dr S K Hasija, Prof and Head, Department of Bioscience, Rani Durgawati Vishwavidyalaya, Jabalpur.

3. Suresh, P G. **Studies on haemolymph constituents of In-**

Indoplanorbis exustus Deshayes and Lymnaea acuminata Lamarck. F rufescens Gray and the effects of copper on the activity pattern of selected transaminases and phosphatases. CUST. Dr A Mohandas, Reader, School of Environmental Studies, Cochin University of Science and Technology, Kochi.

Biology

1. Mathew, Philip. **Sub lethal effects of heavy metals on Perna indica Kuriakose and Nair and Donax incarnatus Gmelin.** CUST. Dr N Ravindranatha Menon, Director, School of Marine Sciences, Kochi.

2. Prabhakaran, N. **Studies on fingal flora with special reference to yeasts in the Cochin backwaters.** CUST. Dr P Sivadas, Asstt Director, National Institute of Oceanography, Regional Centre, Cochin.

3. Sait Sahul Hameed, A. **Studies on the pathobiology of penaeid larvae and post larvae in the hatchery.** CUST. Dr P Vedavyasa Rao, Scientist, Central Marine Fisheries Research Institute, Kochi.

Biochemistry

1. Fauzia Begum. **Isolation and characterisation of several mycotoxins and mycotoxin producing fungal flora from food grains and effect of aflatoxin B1 in animal systems.** Calcutta.

2. Maiti, Sankarnarayan. **Studies on interaction of colchicine and its structural analogues with tubulin - microtubule system.** Calcutta.

3. Munshi, Anil. **Cloning and expression of human chorionic gonadotropin subunits and a chimaeric human chorionic gonadotropin construct in a mammalian cell system.** JNU. Prof G P Talwar and Dr P S Khandekar.

4. Nagaraja, Kumari, N. **Protease inhibitors of Canavalia seeds and their action on human and other mammalian enzymes.** Mangalore. Dr T N Pattabhiraman, Prof and Head, Department of Biochemistry, Kasturba Medical College, Manipal.

5. Pandit, Malabika. **Studies on key enzymes of polyamine biosynthesis from Corchorus olitorius L.** Calcutta.

6. Ravi Kumar, K. **Role of vitamin A dificiency in urolithiasis.** Osmania.

7. Sharma, Madhav Datt. **Isolation and characterization of a sporadic non-A non-b hepatitis associated agent.** JNU. Dr (Mrs) Rama Mukherjee and Prof G P Talwar.

Microbiology

1. Charde, Vijay Narayanrao. **Microbial degradation of aniline resorcinol and nitrobenzene present in waste waters.** Nagpur. Dr A G Ingle, Lecturer, Department of Microbiology, Nagpur University, Nagpur.

2. Indu Bala. **Role of dissimilatory nitrate metabolism in symbiotic nitrogen fixation in Sesbania.** H A U.

Botany

1. Bhattacharyya, Gauri. **Attempts to transfer genes between distantly related plant species with the aid of plant protoplast manipulation technique.** Calcutta.

2. Changkakoti, Bhabani. **Studies on algae of Meghalaya with special reference to their altitudional pattern of distribution.** Gauhati. Dr (Mrs) R P M Bordoloi, Prof and Head, Department of Botany, Cotton College, Guwahati.

3. Inderdeep Kaur. **Histogenesis and conceptacle organiza in Sargassum vulgare C Agardh and S johnstonii Setchell an Gardner through histochemistry and electron microscopy.** De

4. Jaiswal, S K. **In vitro regeneration of plants from seedlin explants and cotyledon protoplasts of Brassica carinata A Brau** Delhi.

5. Lakshmi Bhavani, N. **Dialiel analysis and tissue cultu studies of pigeonpea.** Osmania.

6. Laloo, Allana Rose. **Studies on ecological strategies of Oxali corniculata Linn and O latifolia H B K.** NEHU. Dr R S Tripat Department of Botany, North Eastern Hill University, Shillong

7. Latha, K. **Physiological and biochemical studies in jojob with special reference to mineral nutrition.** Osmania.

8. Mittal, Neelima. **Nematophagous fungi : Taxonomy, ecolog and application.** Delhi.

9. More, Vanita Narayan. **Mutation studies in Dieffenbachi species.** Nagpur. Prof A S Khalatkar, Postgraduate Department o Botany, Nagpur University, Nagpur.

10. Nandi, Saroj Kr. **Inhibition of biodeterioration of seeds in storage and associated mycotoxin formation by natural volatile compounds.** Burdwan. Prof Balen Nandi, Department of Botan Burdwan University, Burdwan.

11. Patgiri, Indrani. **Phosphatase containing and phospate solubilizing bacteria from soils under tea cultivation and their response to some phosphorothioate type of pesticides.** Gauhati. D (Mrs)BalamaniBezbaruah, Head, MicrobiologyDivision,Regiona Research Laboratory, Jorhat.

12. Pouranik, Manjusha. **Studies on phacohyphomycosis with special reference to etiology,epidemiology and chemotherapy.** Durgawati. Dr S M Singh, Department of Bioscience, Rani Durgawat Vishwavidyalaya, Jabalpur.

13. Ravi Prakash, K. **Morphological and biochemical changes in water stressed maize, Zea mays L.** Osmania.

14. Ray, Swapankumar. **Studies on some aspects of some edible mushrooms of Birbhum district of West Bengal.** Calcutta.

15. Saikia, Neelima. **Microorganisms, bacteria, contributing t the sulphur cycle in soils under tea cultivation.** Gauhati. Dr B Bezbaruah, Head, Microbiology Division, Regional Researc Laboratory, Jorhat.

16. Saikia, Rupa. **Physiology and biochemistry of senescence i tobacco, Nicotiana tabacum L leaves.** Gauhati. Dr C L Bo Prof, Department of Botany, Gauhati University, Guwahati.

17. Sarmah, Kailash Ch. **Studies on certain aspects of microfungi of ricefield with special reference to the effect of certain nitrogenous fertilizer application.** Gauhati. Dr K N Bor Reader, Department of Botany, Gauhati University, Guwahati.

18. Sarmah, Mridul Chandra. **An investigation on the morph ogy, cytology and steroidal alkaloid content of certain Solanu species.** Gauhati. Dr B C Goswami, Reader, Department of B Gauhati University, Guwahati.

19. Shobha Rani, G. **Anatomy and chemotaxonomy of Aca thaceae.** Osmania.

20. Subba Rao, T. **Morphochemical studies on tobacco and products in relation to forensic science.** Osmania.

21. Suvercha. **Mycorrhizal technology in tetraploid**

loid **wheat cultivation.** Delhi.

. Yashodhara, Komanduri. **Epidermal studies in some Ver- eae.** Osmania.

ulture

Bandyopadhyay, Anjana. **Utilization of aquatic weeds with on their nutritive value.** Calcutta.

Bhatia, Arun Kumar. **Studies on rapid multiplication tech- s in seed potato production.** H A U.

Kishore Kumar. **Influence of biometeorological parameters ple scab development and its management.** Y S Parmar. Dr Gupta, Regional Fruit Research Station, Mashobra, Shimla.

Padule, Dnyaneshwar Narayan. **Studies on post-harvest dis- of grapes, Vitis vinifera L.** Mahatma Phule. Late Dr P A le.

Pallikondaperumal, R K. **Heterosis combining ability and otypic stability of seed yield and its components in sunflower, nthus annuus L.** T N Agrl. Dr M Stephen Durairaj, Prof and , Department of Forage Crops, Tamil Nadu G D Naidu Agricul- University, Coimbatore.

. Rajender Singh. **Response of cowpea, Vigna unguiculata (L) to plant geometry, fertility levels and methods of weed control mmer season.** H A U.

. Sah, Jay Narayan. **Mutation breeding in Indian mustard, sica juncea (L) Czern and Coss.** Rajendra Agrl.

. Sah, Kapil Deo. **Studies on characterisation of some grove solid of the Sundarbans with special emphasis on mposition and nutrient enrichment through mangrove vegeta- s.** Calcutta.

. Saha, Rita. **Use of the agro-chemicals in the riverine lands : ction and quantification of chlorinated pesticides and heavy als in the Ganga water.** Calcutta.

.0. Sharma, Indra Deo Narayan. **Population dynamics and nical control of the insect pest complex of jute.** Rajendra Agrl.

11. Singh, Rajendra Pratap. **Nitrogen transformations in acid ols of Ranchi under continuous manuring and fertilization.** a Agrl.

12. Singh, Sanjay Kumar. **Heterosis and combining ability in ato, Lycopersicum esculentum Mill.** Rajendra Agrl.

13. Subburamu, K. **Studies on certain physiological aspects of rosis in tomato, Lycopersicon esculentus Mill.** T N Agrl. Dr agarajan, Prof and Head, Department of Crop Physiology, Tamil lu G D Naidu Agricultural University, Coimbatore.

14. Vinod Kumar. **Studies on the use of true potato seed (TPS) otato production.** H A U.

15. Yadav, Bakheru. **Genetic studies in relation to transgressive regation in wheat.** H A U.

logy*

1. Abrol, Anureeta. **Effect of organic wastes on zooplankton exotic carps.** Jammu. Dr M K Jyoti.

2. Bhasker Shenoy, K. **Functional development of small intes- e in pigeons, Columba livia.** Mangalore. Prof S N Hegde, partment of Applied Zoology, Mangalore University, Mangalore.

3. Chaudhuri, Supratim. **Ecological studies on a sewage red fish d.** Calcutta.

4. Das, Manindra. **Studies on the systematics and bioecology of the icthyospecies belonging to the genus Tor Gray from Jia Bhara drainages of Assam (India).** Gauhati. Dr S C Dey, Prof, Department of Zoology, Gauhati University, Guwahati.

5. Ghosh, Apurba Ratan. **Arsenic and cadmium toxicity in the alimentary canal and digestion of two Indian airbreathing teleosts, Notopterus notopterus PALLAS and Heteropneustes fossilis BLOCH.** Burdwan. Dr Padmanabha Chakraborti, Department of Zoology, University of Burdwan, Burdwan.

6. James, A. **Mercuric cloride induced enzymatic and behavioural changes in mice and its reversal by some antidotes.** Saurashtra. Dr V C Soni.

7. Khondaker, Khairul Anam. **Evaluation of the nature of influences of organophosphate pesticides on the blood-glucose, liver and muscle glycogen in munia, parakeet and weaver bird.** Burdwan. Dr Soumen Kr Moitra, Sr Lecturer, Department of Zoology, University of Burdwan, Burdwan.

8. Kulkarni, Nitin. **Histophysiology of the corpus allatum in Nezara viridula Linn (Heteroptera).** Durgawati. Dr S C Pathak, Department of Bioscience, Rani Durgawati Vishwavidyalaya, Jabalpur.

9. Manju Bala. **Effect of organic wastes on zooplankton and Indian carps.** Jammu. Dr M K Jyoti.

10. Mundkur, Taej. **Nesting and feeding ecology of aquatic birds in Saurashtra and Gulf of Kachchh.** Saurashtra. Dr R M Naik.

11. Muralidhar, K S. **Studies on bird fauna and their probable role in the forest ecosystem of Western ghats.** Karnatak. Dr S Basalingappa, Department of Zoology, Karnatak University, Dharwad.

12. Nutakki Devika. **Stomatopod crustaceans of Visakhapatnam coast with special reference to the biology of Harpiosquilla harpax (de Haan, 1844).** Andhra.

13. Pandit, Pijushkanti. **Experiments of some aspects of fish culture technology under rural condition in West Bengal.** Calcutta.

14. Patnaik, Kalyani Kumari. **Studies on the genotoxicity of certain organophosphorus pesticides in the Drosophila wing mosaic and sex-linked recessive lethal tests.** Berhampur. Dr N K Tripathy, Reader, Department of Zoology, Berhampur University, Berhampur.

15. Rajesh Kumar. **Studies of the esterase enzyme system of Drosophila melanogaster.** Mithila. Dr A P Jha, Principal, C M Sc College, Darbhanga.

Attention Publishers!

Publishers are welcome to submit their latest publications for review in the *University News*. Two copies are required to be submitted; one is sent out to the reviewer while the other is retained in the office for reference and record. All reviews published in University News are signed.

16. Saha, Gautam Kr. **Studies on the role of house dust mites, Dermatophagoides Spp.on bronchial asthma in Calcutta and its suburbs.** Burdwan. Prof Deb Kr Choudhuri, Department of Zoology, University of Burdwan, Burdwan and Dr Neelam Tandan, Reader, Department of Medical Entomology, School of Tropical Medicine, Calcutta.

17. Sarkar, Nirmal Kumar. **Cytophysiological studies of some murine lyphoma and leukaemia.** Calcutta.

18. Sharma, Yash Paul. **Studies on the changing biochemical constituents in the developing stages of Earias vittella Fabr (Lepidoptera : Arctiidae).** Punjabi. Prof J P Singh, Department of Zoology, Punjabi University, Patiala.

19. Yadav, Arun Kumar. **Studies on some aspects of nematode infections in animals of food value with an evaluation of plausible factors affecting zoonotic infections in Meghalaya.** NEHU. Dr (Mrs) Veena Tandon, Department of Zoology, North Eastern Hill University, Shillong.

Medical Sciences

1. Bhuyan, Chaturbhuja. **A textual study on shalakya tantra specially ayurvedic eye diseases based on sushruta samhita.** Jagannath. Dr Harisankar Pandey, Ex-Principal, Gopbandhu Ayurveda Mohavidyalaya, Puri (Orissa).

2. Dash, Kalpana. **An immunological study of haemagglutinins (lectin) of Indian fresh water cat fishes.** Delhi.

3. Dilip Murthy, K. **Study of morphological changes in undernourished developing brain and the study of extents of recoveries with rehabilitation.** Bangalore. Prof T Desiraju, Department of Neurophysiology, National Institute of Mental Health and Sciences, Bangalore.

4. Kusum Lata. **Physical growth and development of pre children (0-5 years) under optimal nutrition.** B H U. Tripathi.

5. Misra, Vijay Shankar. **Ayurveda darshan.** BHU. Pr Tripathi.

6. Murali, V. **Physical and clinical studies associated intracavitary treatment of carcinoma of the uterine cervix.**

7. Pande, Subhash Kumar. **Designing of systemic site sp formulation of some drugs.** H S Gour. Prof V K Dutt, Depa of Pharmaceutical Sciences, Dr Hari Singh Gour Vishwavidy Sagar and Dr S P Vyas, Department of Pharmaceutical Scienc Hari Singh Gour Vishwavidyalaya, Sagar.

8. Suresh, Parimi. **Anti diabetic effect of some rasa pre tions.** BHU. Dr S K Dixit.

9. Wasule, Deepak Dhanraj. **Prediction of zeta potenti emulsion from energy parameters of its constituents.** Nagpur A K Dorle, Department of Pharmaceutical Sciences, Nagpur Uni sity, Nagpur.

10. Yadav, Markanday Singh. **Adivasi samuday mein sa ka kuchh paksha : Mirzapur janpad me dudhdi vikas-kha adivasiyo par adharit samajshastriya adhyayan.** BHU. D Shukla.

11. Surinder Singh. **Studies on coccidiosis in buffalo-c Bubalis bubalis.** PAU.

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1991
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TISS Convocation

A visually handicapped student receiving M.A. degree in Social Work at the 51st Convocation of the Tata Institute of Social Sciences, Bombay.

CLASSIFIED ADVERTISEMENTS

PUNJABI UNIVERSITY, PATIALA

Advt. No. 30/Rect/PRO

Applications on the prescribed form are invited for the following posts so as to reach the Deputy Registrar (Establishment) by **Ist July, 1991:**

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2. **READERS : Business Management -2;** Anthropological Linguistics - 2; Computer Applications (Damdama Sahib Institute) -1; Journalism & Mass Communication - 1

SPECIALIZATIONS

Business Management: Finance Management/Materials Management/Personnel Management. Applicants in the area of Finance Management should have specialization in Tax Planning.

Anthropological Linguistics: Theoretical Linguistics/Stylistics/Socio-linguistics.

Computer Applications: Data Base Management (Detailed qualifications will be supplied along with the application form)

Journalism & Mass Communication: Mass Communication

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(4) ਲਿਟਰੇਰੀ ਕ੍ਰਿਟੀਸਿਜ਼ਮ

Economic (Bathinda Centre): Public Finance/Monetory Theory.

Biotechnology : Biochemical Engineering & Food Technology/Environmental Biotechnology/Recombinant DNA Technology/Tissue and Cell Culture Technology.

Hindi (CC):

(1) ਮੱਧ ਕਾਲੀਨ ਸਾਹਿਤ
(2) ਕੱਥਾ ਸਾਹਿਤ
(3) ਪੱਤਰ ਵਿਹਾਰ ਸਿੱਖਿਆ ਵਿਭਾਗ ਦਾ ਤਜਰਬਾ

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Arabic (Malerkotla Institute): Preference will be given to candidates who have additional qualifications in Urdu and Persian.

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4. The eligibility of every candidate
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qualifications acquired by him
last date fixed for receipt of
tions.

5. It is not obligatory to call
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essential qualifications

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or :
NDER SINGH

TILTED SCALES

Quiser Zoha Alam*

4 JUL 1991
C. F. T. R. I., MYSORE

When somebody is told that you are a teacher he may look at you with contempt. It is interesting, however, that when you tell him that you teach English he may display a broadening of lips, if not a full-fledged smile. Though it is apparently only a lip service he fact remains that the study of English still carries some weight and glamour. A serious problem that the teacher of English used to face in the past was that a large classes. The teacher now faces another kind of difficulty – the problem now is that of small classes. During the B.A. English evaluation last year the examiners were relieved on the third or fourth day. The examiners were taken aback because they expected the evaluation to continue for another week or so. During tabulation it was found, however, that a very small number of candidates has actually offered English. The decline has been sharp and steep. This lack of interest in English at the moment is a matter which deserves the attention of the English teaching community.

A school teacher was once asked, 'Do you believe in clubs for young boys?' His reply was 'only when kindness fails'. Perhaps it would not be too ungentle a remark that things as they stand now with regard to the teaching of English in India should make the planners, framers and trainers wield the 'club' in both senses – a 'stick' and a 'group' to rouse the teacher of English from inaction and complacence. It has been charged that many of them often refuse to think.

In R.K. Narayan's *The English Teacher*, Rangappa, the Lecturer in Philosophy, tells the protagonist, Krishna, the English Teacher at Albert Mission College, Malgudi, that English department existed solely for dotting the i's and crossing the t's. While taking stock of his daily life, Krishna observes that he got up 'at eight every day, read for the fiftieth time Milton, Carlyle and Shakespeare, looked through compositions'. As a matter of fact, how much attention and time should be devoted to language and how much to literature and how to mix the two in a platable dose, have been issues that the teacher of English in India has been facing perennially.

During an investigation, I interviewed a senior lady teacher of a Boys' Middle School in the suburbs of Ranchi. She had studied up to Class VII and, much later, received a 'junior' training at the Ursline Convent. Until very recently she was drawing a salary of Rs.145/- per month but now, after a pay hike, gets about Rs. 300/- . Perhaps there may have been another pay revision after I interviewed her. In fact, this, more or less, is the state of affairs with most of the teachers at the lower level at least in private schools. Talking of the standards at the college level, the Government of India Study Groups (during the sixties) made a special mention of the fact that the younger lecturers were almost as incorrect in their use of English as the pupils themselves. I am reminded of the predicament that a senior university teacher found himself in. He had apparently not heard of naphthalene balls as he looked askance when napthalene balls were suggested to him as medicine. Luckily, he new the Hindi equivalent. To my surprise, I once found the VI year English students loath to accommodate the poor little letter, the second 'm' in accommodation. Not unreasonably, they were unwilling to part with two c's and then two m's in writing a single word.

I think here also of the bright chap who obtained his M.A. in English a couple of years ago and has been ever since pestering me to agree to supervise his research for the Ph.D. degree. When I was giving him some dictation I found him inexplicably hesitant and shaky at every step. Terribly

(Contd. on page 16)

**University Professor of English, Ranchi College. Ranchi University, Ranchi.*

A Model for the

DISPUTE SETTLEMENT MACHINERY IN UNIVERSITIES AND COLLEGES

(in the context of the123rd Report of the Law Commission of India)

S. K. Agrawala*

This comprehensive paper examines the existing provision for settlement of disputes and redressal of grievances in the universities and colleges, pinpoints its shortcomings and develops a detailed model for such a machinery at the grass root, state and the central levels. The proposed model is replete with prescriptions for the composition of the tribunals, mode of appointment of the members, their tenure and jurisdiction. It thus takes a step further the proposal to establish a Central Educational Tribunal mooted by the Law Commission of India vide its working paper published in the *University News* of 23rd March, 1987. As the readers will recall this working paper had generated quite an interest in the proposal and the A.I.U. had organised a Group Discussion on the subject chaired by Justice D.A.Desai, the then Chairman of the Law Commission of India which was attended by over fifty Vice-Chancellors. The proceedings of this Group Discussion and the debate generated by the proposal were extensively covered in the *University News* in its issues of March 30 and May 11, 1987. The excerpts from the final report of the Law Commission of India incorporating the proposal (123rd Report) were also published in the *University News* in its issue of 3rd July 1989.

We invite our readers to examine this model censoriously and join the debate on the subject, which though vital to the health of the University system is rather neglected. Your views and comments will be accorded priorty in publication.

I

Existing Machinery at Grass Root Level

The machinery which presently exists at the grass root level in the universities and colleges for the settlement of disputes of various types could be classified into the following categories:

1. As regards the service matters of the teachers and non-teachers in most universities/colleges any dispute arising out of the contract of service has to be referred to a tribunal of arbitration consisting of one member appointed by the university and another member nominated by the employee concerned and one nominee of the Chancellor to act as an umpire.[e.g. S.74 Poona University Act, 1974.] In case of college teachers, the tribunal is to be composed of representatives of the management, aggrieved employee and a nominee of the Vice Chancellor to act as an umpire.

This decision is considered as final and no suit is permissible before any civil court in respect of the matter decided by the tribunal.

Under a few university enactments, however,such tribunal has been given jurisdiction only when there removal or dismissal.

In certain other universities e.g., Rajasthan, di putes are referred to arbitration only in case of contrac between an affiliated college not maintained by th government and the members of its teaching staff i cluding the Principal.

In case of Maharashtra, however, independe tribunals (not a tribunal of Arbitration) called Colle Tribunals, have been contemplated under th Maharashtra Universities (Second Amendment) Ac 1977, for deciding disputes arising only out of the di missal, removal or termination or reduction in rank o employees of non-government/non-university affiliate colleges and recognised institutions.

This tribunal therefore does not have jurisdictio over employees of a government college or a recogn institution managed and maintained by the state gover ment or the university.

The Maharashtra State Government has constitu

Secretary, Association of Indian Universities, 16 Kotla Marg, New Delhi - 110 002.

tribunals to cover six universities (Poona, Shivaji, ay, SNDT, Marathwada and Nagpur).

is College Tribunal, however, is not a tribunal of ration; it is a tribunal in substitution of a civil .

e case before the tribunal shall be decided ex- iously preferably within three months of the date receipt by the tribunal.

e tribunal can pass its own appropriate order ituting the one passed by the management.

e decisions of the tribunal shall be final and no suit, al, or any legal proceeding shall lie in any court or e any tribunal, or authority, in respect of the mat- lecided by the tribunal.

the management fails without reasonable cause to ly with any direction issued by the tribunal it could sited with certain penalties as specified therein.

he legal practitioners are excluded from ap- ance before the tribunal, except with special per- ion.

certain universities [e.g.Osmania], any dispute ng out of contract of service may be referred by the Chancellor to a Grievance Committee consisting rtain members of the Syndicate.

pattern also exists [Guwahati], under which dis- s arising out of the contract of service are referred e Executive Council and if the dispute is between loyee and the Executive Council, then to the Chan- r. The Executive Council or the Chancellor may er dispose off the appeal or may refer it to a board rbitration.

he conditions of service in a university/college are governed by the provisions of the relevant Univer- Act and statutes, though as a matter of form a tract of service is also entered into. The University and statutes, thus elaborately lay down the condi- s of service of its employees (leave rules, pension gratuity rules, qualifications, promotion, retirement). They also lay down the grounds for taking discipli- y action against the employees, the minor and major alties that can be inflicted on those grounds as well he procedure for inflicting these penalties.

Many a time the genesis of the dispute lies in the lty framing or non-framing of appropriate tutes/ordinances by university authorities.

The major problem with these tribunals of arbitra- n is that they are hardly taken recourse to. An aggrieved party would better like to approach the High Court through a writ petition under article 226 of the Constitution and obtain some procedural and interim relief, and then stall the hearing on substantive issues through all possible strategem.

Unless approach to the High Courts under article 226 and to the ordinary civil courts is totally prevented, the aggrieved persons would not be inclined to approach a tribunal of arbitration, in service matters.

It, however, be emphasised that under Part XIV A of the Constitution (introduced by the Forty Second Amendment, 1976), administrative tribunals can be set up for certain defined purposes, by the Parliament and State Legislatures; a Law setting up such a tribunal can also exclude the jurisdiction of all courts, except the Jurisdiction of the Supreme Court under article 136. Unfortunately, settlement of educational disputes is not a matter mentioned under Part XIV A either under article 323 A or article 323 B.

The Law Commission of India, in its 123rd Report has taken note of this difficulty (p.20 of the Report); they have, however, suggested that entry 11A read with entry 25 of the concurrent list of the Seventh Schedule of the Constitution unquestionably clothe Parliament with power to enact the legislation for setting up tribunals as discussed above. Entry 11A reads "Administration of Justice; Constitution and organisation of all courts, except the Supreme Court and the High Courts". Entry 25 reads: "Education, including technical education, medical education and universities, subject to the provisions of entries 63, 64, 65 and 66 of List I; Vocational and technical training of labour."

Though the above interpretation of the law by the Law Commission is laudable, it is suggested that the matter being extremely important, the Union Government be moved to have Article 323 B of the Constitution amended and have ‘education’ added as still another matter under clause (2), for adjudication by tribunals of disputes etc. relating thereto.

Still another important development needs to be noted in this connection. In pursuance of Article 323 A of the Constitution, the Parliament has passed the Administrative Tribunals Act, 1985. Under this Act, the Central Government can also establish an administrative tribunal for a state on request and the provision of this Act can be applied to that State Tribunal [S.4(2),(3)]. All jurisdiction, powers and authority exercisable by all courts (except the Supreme Court) in relation to recruitment and matters concerning recruitment and all service matters concerning a person appointed to any service or post of any local or other authority and corporations or society, owned or controlled by the State Government, can be entrusted to such state administrative tribunals by notification by the State Government [S.15(2)]. The question is pending before the Supreme Court in Himachal Pradesh University v. Jeet Ram Thakur and others (civil appeal No.1820 of 1988), if Himachal Pradesh University is a corporation (or authority) controlled by the State Government of Himachal Pradesh.

A State Administrative Tribunal was set up in Himachal Pradesh in 1986. The Jurisdiction of this Tribunal was extended over the H.P. University employees through a State Government notification. Consequently, the service matters of HP University employees were transferred from the High Court to this tribunal. An employee moved the HP High Court that the notification in question was beyond the powers of the State Government since a university is not under the 'control' of the State Government under S.15(2) of the Act. The High Court held in favour of the petitioner in 1987. Surprisingly, the HP University has preferred a special leave petition before the Supreme Court in 1988 contending that it is under the control of the State Government and as such all service matters concerning university employees should be heard and decided by the Administrative Tribunal and not by the High Court. The petition is pending consideration by the Supreme Court. The Association of Indian Universities, being vitally interested.in the autonomy of universities and in a finding and declaration by the Supreme Court that universities are not corporations under the control of state governments, moved the Supreme Court in 1990 and has got itself impleaded as an intervener.

Such State Administrative Tribunals have been created for Himachal Pradesh, Andhra Pradesh, Gujarat, Karnataka, Kerala, Maharashtra, Madhya Pradesh, Orissa and Tamil Nadu. The question is thus moot at the moment if these tribunals shall have jurisdiction over the service matters etc. of university employees. It has, however, to be noted that these tribunals are not the ones which were envisaged to decide the service matters of university employees; they were initially established for central and state government employees. Secondly, it is a little too early to pass a judgement on the functioning of these tribunals. Their success or failure, however, could not be a conclusive argument for the establishment or non-establishment of educational tribunal(s) which will have a much wider jurisdiction and will operate in a different environment with a different ethos. The proposed educational tribunals should really benefit from the experiences, and improve on the performance of both fa unfavourable, of the Central/State adm tribunals, as regards their composition, sup facilities and actual functioning.

It is felt, however, that questions of appoint seniority and promotion are not governed by se contracts. As such disputes arising with respect to are generally governed by separate provisions w for appointments elaborate provisions have bee down in university act/statutes, for the ultimate de by the university Executive Council (with provis reference to the Chancellor in exceptional case; for seniority and promotion the decisions are tak ad hoc/standing committees of the Executive Co on the basis of detailed guidelines as laid down university bodies.

A state level machinery would, however, be n sary for appeals against such decisions in cas employee feels aggrieved therefrom.

It was, perhaps, to get over such a difficulty the Visva Bharati Act, 1951 provides that besides the putes arising out of service contracts, disputes rel to non- compliance of the provisions of the Act, st or the ordinances can also be referred to the Tri of arbitration.

2. The disputes in which the **STUDENTS** pitted against the universtity and the colleges em from three main areas of activities: **ADMISSI** **EXAMINATIONS** and other **DISCIPLINARY** ters.

The final authority to decide questions of adm vests in the Vice Chancellor. Under most uni enactments/statutes,the Vice Chancellor delegat authority to an Admissions Committee whose dec are considered as final. The Admissions Commi differently constituted in various universities an It generally consists of senior teachers and princ

Detailed rules of admission to the various cou the university exist in most universities.

The initial question of admission is decided Heads of Department/College concerned or by mittees headed by them. It is against the final de of these various departments and colleges that th missions Committee of the university receives sentations. For receiving these representa detailed procedure is prescribed as also the man which the representations are to be disposed of viously, this procedure will have to incorporate th ciples of natural justice.Compliance wi requirement of opportunity of hearing would no ly the right to appear before the committee right to be represented by a legal prac- A written representation by the aggrieved stu- ld be considered as adequate to satisfy the ent of an opportunity of being heard. How- order that the candidate may be able to make ful representation, it is necessary that the ent/college concerned clearly states the reason admission has been denied to him.

Admission Committee, it is implied, would also cases of reservations as per university rules and university rules shall carry clear provisions for servations.

econd category of disputes relating to the stu- ., complaints regarding **unfair means at ex- ons**, are referred to a Committee generally s the 'Examinations Committee'.

ersity/College teachers and principals are rep- l on this committee. The decisions of this com- ave ultimately to be approved by the Governing the university.

Committee while arriving at a decision for g any punishment is required to proceed ac- to the principles of natural justice, giving an nity to the candidate to explain the case against ll the material or other evidence against him has rought to the notice of the candidate by the ity/college. Personal hearing is not generally o the candidate, nor is it absolutely necessary he law, or practicable when the number of cases ir means is so large.[However, personal hearing right to present witnesses too is provided under university enactments e.g. Rajasthan.] The can- has to reply to the charge against him as based evidence brought to his notice. The candidate bmit a written reply. All this material is con- d dispassionately by the Examinations Commit-

rder to facilitate the work of this committee it is ary that the examination malpractices are specifi- sted and appropriate punishment prescribed for alpractice. The punishment should not be exces- d unreasonable when considered in the light of alpractice concerned.

e last category of disputes involving students re- the general **disciplinary matters** in an institution. behaviour of a student is found to be undesirable, first instance the punishment can be inflicted him by the head of the department/college or st concerned. This is the delegated power of the Chancellor which he enjoys for maintaining discipline on the campus or in the hostels.

A disciplinary committee generally hears representations against such punishments inflicted upon the students. This committee would again have to observe the principles of natural justice i.e., to obtain written representation from the student concerned as regards the charges against him and the punishment imposed. This disciplinary committee generally consists of certain teachers nominated by the Vice Chancellor/Principal. On the basis of material submitted to it, the Committee arrives at appropriate decisions.

To enable a disciplinary committee to function properly, it is necessary that detailed rules of discipline along with the penalty contemplated for each major act of indiscipline are laid down exhaustively by the university through ordinances/regulations.

Under certain university enactments, appeal or review of the decisions of the disciplinary committee is made possible, to the university Governing Body.

Under the Visva Bharati University and the NEHU Act, 1973, as an unique feature, any dispute arising out of any disciplinary action taken by the university against students resulting in removal of the student from the rolls of the university for more than 3 months, can be referred to a Student Tribunal on the request of the student. This tribunal shall consist of a person nominated by the Executive Council, another member nominated by the student concerned and the umpire nominated by the Visitor.

In case of Aligarh Muslim University, any disciplinary action taken against the student whether by the Vice Chancellor, the Disciplinary Committee or the Examinations Committee, if his name has been removed from the rolls of the University and he has been debarred from appearing at the examinations of the University for more than a year, may appeal to the Executive Council within a specified period, which may confirm, modify or reverse the decision.

Any dispute arising out of any disciplinary action taken against a student shall at the request of the student be referred to a Tribunal of Arbitration. The decision of the Tribunal shall be final.

3. The disputes relating to university property and contracts (other than service contracts) are under the jurisdiction of Civil Courts. No change in that arrangement seems to be necessary.

4. It also requires to be noted that under several university enactments, jurisdiction of the civil courts has been totally barred as regards matters arising under the

University Acts. Despite such a provision, the civil courts in several states have been entertaining suits and have been granting injunctions with respect to matters arising under the Act of the university in that State. The matter requires to be looked into by the concerned High Court under its powers of superintendence over subordinate courts under article 227 of the Constitution. The consequence of barring the jurisdiction of civil courts is that only a writ petition can be moved to the High Court under article 226 of the Constitution.

II

Major Shortcomings of the Machinery of Dispute Settlement at the Grass Root Level

1. There is no uniform model which is followed in the universities with respect to any type of dispute. Consequently, some of these models do not even satisfy the basic requirements of natural justice, e.g., even if punishment is provided for misconduct, it is not matched to the gravity of the offence (misconduct); or no opportunity of hearing is provided at any stage.

2. Even though the Act and/or statutes provide for detailed provisions to be laid down by the university bodies and authorities e.g., the discipline of students or the infliction of penalties on teachers and non-teachers or norms to be followed by the examinations committee etc., several universities have done little to discharge this basic obligation.

Consequently, in so many universities the norms/guidelines themselves do not exist with respect to several of these obligations.

3. As regards service matters, the tribunal of arbitration which generally exists under university enactments:

(i) does not have jurisdiction over all service matters; e.g., those not arising out of the service contract; [e.g., initial appointment, seniority, promotion];

(ii) in case of certain universities recourse to tribunal of arbitration is possible only when there is removal or dismissal from service;

(iii) in several university enactments this tribunal of arbitration has been contemplated only for the teachers and not for the non-teachers;

(iv) separate tribunals for teachers of affiliating colleges have not always been constituted, or have been constituted for them only and not the university teachers;

(v) it has been the experience in most universities that arbitration procedure is generally not resorted to. Perhaps an interim relief from the High Courts through a writ petition which is easily, cheaply and quickly available on procedural grounds is found to be more satisfying.

4. In case of Maharashtra where College Tribunals have been constituted for adjudication of disputes only between the employees and the management of affiliated colleges, law, procedure and practice of the tribunals suffer from the following major drawbacks:

(a) The tribunal has not been given jurisdiction over disputes arising in government colleges or institutions maintained directly by the university;

(b) The tribunal hears appeals only in respect of dismissal, removal, termination or reduction in rank;

(c) The tribunal is manned by one member only.

A study by Prof. S.P. Sathe of ILS Law College, Pune also indicates that out of the responses received from the respondents in the survey, by and large, the feeling was expressed that the tribunal is a satisfactory method for settlement of disputes. These tribunals have also acted speedily and inexpensively. They have also given satisfaction to a large number of employees of private affiliated colleges. There is a feeling against the appointment of a Principal of a college as the President Officer of the tribunal, though the law permits it. A person with judicial experience, preferably a retired judge of the High Court is suggested by several respondents. The feeling was expressed that a college Principal may not be able to ensure the same impartiality, fairness and objectivity.

It is obvious that the tribunal should be given the power for enforcement of its decisions by giving it the power to commit for contempt. Perhaps the jurisdiction of the tribunal should also be widened so as to cover all service matters and be not restricted to dismissal, removal or termination.

However, this is only one study on the state tribunal which is available and that too with respect to the first year of the functioning of the tribunal. The conclusions drawn in the study therefore have to be considered with caution.

5. For matters not covered by service contracts which are not preferred to the tribunal of arbitration, or to the college tribunal, the university enactments do not generally contemplate an appellate machinery. It would be necessary that from the decisions of university bodies which may ultimately decide such matters, an appeal to the state level tribunal is provided for.

6. (i) As regards dispute regarding students, in case of several universities detailed rules relating to admission, examination and discipline do not exist, nor have

lefinite machinery been contemplated which may
eed to hear them according to well laid down pro-
res.

i) Even if there are written rules and procedures,it
en not known by those who decide these matters
what would satisfy the requirements of natural
e. In other words, a certain amount of training in
principles for those who sit on these committees
is to be absolutely necessary.

ii) Amongst the questions of admission, the most
ish are the ones relating to the application of the
regarding reservations, mostly in technical institu-
s like Engineering, Medicine, Management.

v) In most universities there is no provision for
eal to any higher body or authority, from the univer-
In certain cases of major punishment like the
ulsion of a student or barring him from appearing at
university examination for a certain number of years,
ppeal to state level tribunal seems to be necessary.

Visva Bharati or NEHU model of referring such
utes to a Student Tribunal seems to be completely
ppropriate. It is the state level tribunal which can
sider these matters too, more appropriately and
ciously.

If the jurisdiction of the civil court is excluded
r disputes arising under the university enactments,
it is felt that they ought to be so excluded, it is
essary that the High Court may issue directives to
district courts in its supervisory powers that by virtue
uch a provision the jurisdiction of district level courts
nds totally barred and they are not free to entertain
application for any injunction etc.

8. We also broadly endorse the analysis as incor-
rated in the NIEPA Report : 'National Commission
Teachers in Higher Education: Grievances and their
dressal'; that :

- Code of Conduct, in some cases, does not exist. Even where elaborate provisions exist, in practice, they are not utilised.
- i) The punishments are not related to gravity of offence, in most cases.
- ii) Distinction needs to be made between group grievance and individual grievances. (and also between Dispute and Grievance).
- v) The Industrial Disputes machinery is not suitable for settling university disputes, nor is arbitration.
- For resolution of individual grievances, the Ombudsman could provide a good model or a tribunal with simplified procedure.
- (vi) In case of group grievances a tribunal or a joint consultative machinery could be considered.
- (vii) The grievances should include questions of transfer. The service conditions should lay down clear guidelines for transfer, leave rules etc.

III

Suggestions and Recommendations Regarding the Machinery to be Set Up at the Grass Root Level

1.(a) As regards the dispute settlement machinery at the grass root level, the Law Commission in its 123rd Report has suggested that (i) it should be accessible; (ii) it should be of a nature as to inspire confidence among disputants; (iii) it should be of a participatory model; (iv) it should not be governed by any technical procedural rules; (v) it should follow the principles of natural justice; (vi) it must handle the disputes expeditiously; and (vii) it must give reasons for its decisions.

The Law Commission did not suggest any specific model and expected that each university would evolve its own model in the context of the above minimum requirements. It also expected that the disputes would be settled expeditiously, not exceedir ix months in any case.

(b) As regards the nature of disputes to be handled by this machinery, the Law Commission envisaged that they would not merely be of the character of disputes, but also of the character of complaints and grievances e.g., students' complaint against teachers, complaint regarding inadequate facilities etc.

It is felt that whereas all other suggestions made by the Law Commission should, by and large, be accepted, a participatory model of dispute settlement as regards the students is not likely to function smoothly under the conditions presently existing in most of the universities in the country.

The participatory model could either be arbitral in character or it could be a committee in which students are also members. Even institutions where this arbitral model exists e.g., Visva Bharati, NEHU, AMU, entertain grave reservations regarding the advisability of such a provision in the university enactments. Moreover, in an affiliating university, for example the number of unfair means cases at examinations is so large that they are never disposed off in time even when several committees work simultaneously in a university. Even if only some of these matters were to be referred to arbitration, it would take years before they are all finally concluded, if concluded at all.

A participatory Committee model in which teachers/principals, a judicial member and students are represented would just not function in most of the universities, because the students would not permit these committees to proceed with their work in a detached and impartial manner. The committees would be pressurised to act in predetermined ways. Besides, there could hardly be any agreement regarding the mode of representation of students on such committees. Such committees, instead of being able to resolve the disputes, would become forums for open confrontation between the teacher members and the student members.

It is also felt that it would not be advisable to entrust the function of disposing off the **'GRIEVANCES'** of the teachers, karamcharis and the students to the same machinery which is set up for settling **'DISPUTES'**. There is a qualitative difference between disputes and grievances. A 'dispute' arises out of the violation of a legal right. It is based on a well defined law including a statutory provision or a piece of delegated legislation e.g., statute or ordinance framed by the Univesity. For example a claim for salary, increment, leave, promotion etc., by an employee shall be based on a provision of law and the interpretation put on it by the party. A dispute thus involves 'lis' – an assertion of a right by one party and its denial by the other, both the assertion and the denial being based on law(s) and its interpretation as suits the two parties. It is the function of the deciding authority to adjudicate the dispute after establishing the facts on the basis of evidence and applying the law with proper interpretation to those facts. A 'grievance', on the contrary arises out of a situation which is not legally redressable. It might be due to delay, unfairness, inequity, callousness or insensitivity or parallel situations – which might be real or imagined. The grievances, thus could have all shades and character. A teacher may say that he does not have a cubicle or that the black board in the class room is not proper or that the library facilities are not adequate. A student may say that there are no sport facilities available in the college or that the toilet facility in the hostel is lacking. These grievances in any institution are innumerable. Some of them may also be genuine. It is also necessary that they must be entertained and if genuine they must also be appropriately disposed off.

The genuine grievances will have to be distinguished from the rest and would then have to be disposed off within a definite time frame. Grievances which arise out of shortage of funds cannot all be met by any university body or committee. Such grievances should be put together; if genuine, the financial implications of the same rationally worked out and the recommendations passed on to the authorities of the university through the Vice Chancellor for suitable action. On that basis a representation for greater financial grant to the educational institution can also be made to the

Government.

It would be necessary that the grievanc received regularly or periodically and a reply to grievances also given within a definite time Separate Joint Consultative Committees are being gested for disposal of grievances of teachers, and karamcharis of the university and of the colleg

2. As regards the disputes between the univ and its employees, it is first necessary that the unive Act and statutes elaborately lay down as to wha conditions of service of the employees – teaching non-teaching,should be. The univesity Act and sta should also elaborately lay down as to what punish minor and major, can be inflicted by the unive authorities, for which misconduct/offence or derel of duty. They must also lay down as to what proce shall be followed in imposing these punishments, a which machinery.

Such elaborate provisions must also be laid dow the service conditions of college employees.

3. The grass root level machinery should provi the settlement of disputes between: (i) university a employees – teachers and non-teachers relatin conditions of service as based on the contract of se or statutory provisions; (ii)similar disputes betw the affiliated colleges and its employees.– teachers non-teachers; (iii) disputes between university and leges on the one side and the students on the other would relate to admissions, unfair means at exam tions and other disciplinary matters.

4. In order that all disputes may not reach highest body in appeal, it is necessary to provide a stage as to which decisions in respect of which cat of disputes would be considered as final. It is u such a system only that serious disputes deserving sideration by higher body would go in appeal and the highest tribunal would deal with disputes which got an all-India implication.

5. It is also noticed that a body composed of party judicial element enjoys a better confi amongst the teachers and students than a body posed totally of university elements. It is ther suggested that judicial element be incorporated composition of these bodies, wherever feasible

6. In the context of the above, the fo machinery for dispute settlement in the univer colleges at the grass-root level is recommended

Teachers and Employees of a University and its colleges

After initial determination has been made t committees of the university,a right to repre- the University Governing Body by the aggrieved ught to be provided. The University Governing ught to be obligated to decide the issue within a fined time schedule.

dispute arising out of such determination should rred to a Tribunal of Arbitration. For a univer- cher or employee the tribunal of arbitration shall of a representative of the University, a nominee aggrieved teacher or employee and an umpire ted by the Chancellor.

case of the college teachers and employees, the nal of Arbitration shall consist of representative college management, a nominee of the aggrieved r or employee of the college, and an umpire ated by the Vice Chancellor.

ese Tribunals of Arbitration shall be constituted l when a complaint is received by the authorities st the final determination by the University ning Body.

ese tribunals of arbitration shall have jurisdiction LL service matters including initial appointment; otion; seniority.

ice these are Tribunals of Arbitration, their ions shall be binding on the parties concerned and peal would be permissible to any other court or rity including the High Court. Thus special leave peal under Article 136 of the Constitution, to the eme Court only would be possible.

owever, if the aggrieved person does not want to recourse to arbitration as above, a one man tribunal t to be provided to which the disputes mentioned e could be referred by the aggrieved person con- ed. This one man tribunal should consist of a per- of the level of a district judge. To make the ointment of retired district judges also possible, the of retirement should be 62. The appointment(s) t to be made by the Governor in consultation with Chief Justice of the High Court and the Vice Chan- r concerned.

One tribunal may be set up for each university. arate tribunal or tribunals may be set up for the eges of university. If the Maharashtra experiment of man College Tribunals is any guide one tribunal ld deal with disputes of employees from the colleges nore than one univerity. However, it has to be embered that the jurisdiction of college tribunal in harashtra extends only to questions arising out of nissal, removal or reduction in rank, If the jurisdic- n of these tribunals is to be enhanced to cover ALL vice matters beginning with appointment, as is being presently suggested, one tribunal will not be able to deal with disputes from the colleges of more than one university.

A person with judicial qualification to man the tribunal is being suggested for the reason that such a person has been found to be generating greater confidence for impartiality than any principal or teacher. However, in order that the Presiding Officer may have all the necessary inputs as regards the academic ethos, procedures of university/college bodies as well as aspirations of teachers and karamcharis etc., he should have the assistance of an assessor available to him. This assessor would be a university or college teacher of at least 10 years standing, as the case may be. He shall be picked up by the Presiding Officer from panels prepared by the Academic Council of the university and approved by the Executive Council. The assessor shall assist the Presiding Officer by providing the necessary information but he will not participate in decision- making.

The decisions of this one man tribunal should be made final as regards the following matters:

(i) disputes concerning minor punishments inflicted upon employees;

(ii) disputes involving establishment of facts or not involving interpretation of a substantive question of law.

In case of other decisions an appeal should be to the State Education Tribunal, which has been separately contemplated in this paper.

Disputes concerning students

So far as the **disputes of students** are concerned whether relating to admission, examinations or general discipline, firstly a right of representation to the University Governing Body, from the decision of relevant committees should be available.

If a student has been denied admission because of the interpretation of a substantive question of law or is debarred from appearing at the university examination for more than one year or is rusticated, an appeal to the State Level Tribunal which is being separately contemplated would be possible from the decision of the university governing body. In the rest of the matters, the decision of the university Governing Body should be final.

7. The jurisdiction presently given to the **Chancellor** under certain university enactments, viz., to decide questions concerning the composition of the University Bodies and to decide whether the decisions of the

university authorities are in accordance with the university Act, statutes and ordinances, should be totally withdrawn. Representation against the decision of university committees/bodies on such matters should first be made to the University Governing Body. On legal questions the opinion of the legal advisory committee as suggested below, should first be obtained.

8. Appeals from the determination of the University Governing Body with respect to such matters only which involve the interpretation of a substantive provision of law ought to be permissible to the State Education Tribunal. That Tribunal shall determine if the matter qualifies to fall within its appellate jurisdiction.

In the rest of the matters falling within this category, the decision of the University Governing Body shall be final.

9. A legal advisory committee consisting of preferably a retired High Court Judge (as Chairman), Dean, Faculty of Law of the University and a member of the Governing Body being an advocate or a person with legal qualifications and experience, ought to be constituted..

ALL LEGAL QUESTIONS of the university coming up before any body or authority should first be referred to this Committee. The opinion of this Committee thereon should be communicated to the body or authority which initially referred the matter to this Committee.

10. Disputes are not the same thing as **grievances,** as discussed elsewhere in this paper. The machinery for the settlement of the two should also therefore not be identical. As suggested by the National Commission of Teachers in Higher Education : India, in the volume on 'Grievances and their Redressal', or by the UGC Committee report on Central Universities, the grievances could be referred to an **ombudsman.** He should necessarily be a person enjoying a very high credibility, who could recommend directly to the Vice Chancellor as to how the grievance could be removed. This person should have held senior administrative, academic and/or legal positions and his appointment should be made by the Visitor out of a panel of names suggested by the Vice Chancellor. He should have a right to call for any papers he may require and could if it is so considered necessary, associate senior academics with his work with the Vice Chancellor's permission.

After some experience is gained in this direction, and it is found that the quantum of work before the Ombudsman is much too large, the question of the appointment of a Deputy (or deputies) to him could also be considered.

What distinguishes a dispute from a grievance sh have to be clearly defined; norms will have to be la down for sorting out the grievances which require to looked into from those which are trivial. The O budsman will have to be provided with an appropria secretariat and a time-frame for disposal of grievanc shall have to be fixed.

The Ombudsman shall hear the grievances from concerned viz., the teachers, the students, the karam charis, and the general public against the university

11. **For Group Grievances,** however, a joint co sultative machinery seems to be most appropriate. T grievance of different groups (viz., teachers, kara charis, students) have to be considered separately different Consultative Committees. (a) For teache grievance, this should consist of a retired district jud (nominated by the Chief Justice) who would be t Chairman, a teacher nominated by the Academic Cou cil, and a representative of the University nominated the Vice Chancellor/Executive Council. (b) If it is group grievance relating to karamcharis, instead of t teacher, a representative of the karamcharis fro amongst employees upto the level of Assistants of least ten years' standing as selected by lot, shall be member of the joint consultative machinery. (c) If it a group grievance relating to students, a representati of the students from amongst the members of the St dents Council, selected by lot shall be a member of t joint consultative machinery. (d) Similarly, joint co sultative committees have to be constituted for ea college.

Such joint consultative committees shall be t standing committees of universities/colleges constitu in advance of the dispute. After considering one d pute and making its recommendations, the committe concerned shall become infructuous; a fresh one w have to be constituted in its place immediately.

The joint consultative committee(s) shall submit report with recommendations, covering each grievan within a specified time frame. The recommendations order to be viable and practical, shall have to be form lated after taking into account the financial implicatio and their financial viability.

The recommendations of each joint consulta committee shall be considered by the executive cou of the university/managing committee of the co the case may be, at its next meeting. The reason(s) rejecting any recommendation shall be stated bodies in writing.

he Executive Council feels that it cannot imple- he recommendations since they are outside their s or because adequate finances are not available university, it may refer them to the State Govern- with its clear opinion if it supports the recom- tions of the joint consultative committee or es them along with reasons therefor.

e managing committee of a college shall refer to the university and the state government in el circumstances.

e State Government shall dispose them off within nable time in the interests of peace and amity on ampuses.

IV

Level Dispute Settlement Machinery

e Law Commission in its 123rd report has sug- d that there should be a state level educational nal in every state. It shall have both Original and llate jurisdiction. If vital matters of policy are ved, the matter can be brought up before the state tribunal enjoying original jurisdiction. Its appel- urisdiction shall be over the decision of the univer- evel dispute settlement machinery.

owever, the illustration which the Law Commission of matters which would fall under the tribunal's inal jurisdiction, e.g., date of examination or ponement of examination, in the present opinion not the matters which could be subjected to a judi- settlement as a dispute. The matter of date of nination or its postponement is a purely administra- question and cannot, and should not, be subjected ny judicial settlement.

s regards the composition of the State Education unal, the Law Commission suggest that it should as its Chairman a sitting or retired judge of the h Court and two other members who are eligible for g appointed as High Court judges. The remaining must be from the rank of Vice Chancellors and nent professors. Thus the tribunal would consist of members.

We are in general agreement with the broad recom- ndations of the Law Commission. We agree that: (i) state level tribunal should consist of five members; Chairman being a sitting or retired judge of the High urt; two other persons who are also sitting or retired h Court judges; [We are not in favour of an advocate ible for being appointed as High Court judge to be inted as member of this Tribunal]; the remaining o' being from the category of distinguished ucationists - former Vice Chancellors, principals, educational administrators and eminent professors.

The jurisdiction of the State Education Tribunal should be both **Original and Appellate**.

Its **Original** jurisdiction shall extend to disputes over matters which have a state level implication or require uniformity in approach throughout the state.

The disputes may be referred under the Original jurisdiction by the party concerned, by the lower tribunal or body concerned; and may even be called to itself by the Tribunal **suo motu**.

The State Education Tribunal should decide itself if the matter falls within its **original** jurisdiction.

Its appellate jurisdiction shall extend to the following matters — (i) decisions of one man tribunals in case of the disputes of employees of the universities and their colleges in the State when any major punishment is inflicted on the employee, or the matter involves the interpretation of a substantive provision of law; (ii) decisions of Governing Bodies of universities in the State in case of **disputes involving students** when he has been denied admission because of interpretation of a substantive question of law or is debarred from appearing at the university examination for more than one year or is rusticated; (iii) decisions of governing bodies of universities in the State in case of disputes relating to composition of university bodies or those involving determination if the decision of the university bodies or authorities are in accordance with the Act, Statutes and Ordinances, provided that the matter involves the interpretation of a substantive provision of law.

Age of Retirement

The age of retirement for the members of the State Education Tribunal should be 65 (to make the appointment of retired High Court judges, on the tribunal, possible).

Power of Appointment

The judicial members of the State Education Tribunal should be appointed by the National Judicial Service Commission as and when it is set up (as discussed in the following section), and till it is set up through the same machinery as provided in the Constitution for the appointment of high court judges. The non-judicial members shall be appointed by the Governor in consultation with the UGC and the proposed State Councils for Higher Education.

V

Central Education Tribunal

This section deals only with the Central Education

Tribunal that has been recommended by the Law Commission.

Jurisdiction

The Law Commission has recommended that the Central Educational Tribunal should have both Original and Appellate jurisdiction. It mentions that appeals against the decision of the state level tribunal shall lie to the national tribunal. It has suggested that central tribunal should have original jurisdiction with respect to even vital policy questions, on which sometimes difference of opinion emerges. The Law Commission has cited the example of the All India Teachers' strike in 1987. It observes "it may be that the view of the Government of India was that the strike was not justified. It is equally possible that the teachers say that a raw deal has been done to them. These are not individual grievances. There may be different shades of opinion on policy matters. But ultimately, there is confrontation which implies there is a dispute and which can be resolved. The national level tribunal can be invested with jurisdiction even with matters of policy". The Law Commission has mentioned that with relation to the question of the selection of Vice Chancellors even, the central tribunal could lay down guidelines. It could also consider the question of setting up of an all India educational service. The Code of Conduct governing relationship between the Vice - Chancellors and the State Government, etc.could also be drawn up by this national level tribunal. Thus according to the Commission the jurisdiction of the widest amplitude should be conferred on the national level tribunal.

It may be noted that the AIU in this connection had pointed out that "issues concerning the relationship of Vice -Chancellors with State Government, or matters of finance, relationship of the university with the UGC, Vice - Chancellor with Chancellor etc., are matters of policy". The AIU had further suggested that models based on the Press Council and Bar Council of India could be considered for handling such matters.

Considering both these points of view in depth, we are convinced that the jurisdiction of the Central Education Tribunal(CET) cannot be so extended as to cover policy matters of the nature referred in the Commission's Report in para 7.14.

We are of the view that jurisdiction of the CET should be **ORIGINAL, APPELLATE AND ADVISORY.**

The *original* jurisdiction of the CET should relate to:

(a) matters of constitutional interpretation. e.g., reservations in admissions under article 15; Central State Relationship, Entries regarding education in the Seventh Schedule of the Constitution, and the like;

(b) such matters which require a uniform na policy to be developed on the subject matter in pute may be referred by the state tribunal to the ce tribunal;

(c) The Central Tribunal could also call all pen disputes before the State level tribunals to itself in it feels that the matter in question requires a nati approach to be developed on the issue.

The *Appellate* jurisdiction of CET :

Appeals shall lie to the CET from all decisions of State Education Tribunals.

It is felt that the central tribunal should also hav **Advisory jurisdiction.** The central governments state governments and the University Grants Com sion should have a right to refer a matter for the adv opinion of the central tribunal. The Central Educa Tribunal shall be free to render or not to render advisory opinion on the question as it might de proper. The advisory opinion rendered by the cen tribunal shall not be binding upon any body.

It is felt that with such an approach, the work-loa the central level tribunal could be made manageabl could ensure that only matters of national character matters calling for the attention of the central trib are brought to its attention and that the conside advisory opinion of a body like the CET is availabl matters which are vital but on which disputes have as yet arisen. The appellate jurisdiction shall cove matters decided by the state tribunals. (for the rea that the jurisdiction of state tribunals has been lim to most important matters only. The jurisdiction of Supreme Court of India under article 136 shall rem unimpaired.)

Composition

The composition of all administrative tribunals be so envisaged as to ensure a combination of judicial element and the specialist element. With end in view, the Committee recommends that tribunal should be constituted as below:

(a) sitting or retired judge of the Supreme C (Chairman)

(b) two other judicial members who are sittin retired judges of the Supreme Court or eligible for being appointed as a judge of Supreme Court;

(c) two members from amongst the disting educationists; distinguished Vice Chanc whether serving or retired; eminent profes and principals, whether serving or retired, di guished educational administrators, wh serving or retired, who have extensively dealt with the problems of higher education for at least ten years.

his composition conforms with the recommenda- s of the Law Commission totally and we endorse

Ve also endorse the recommendation of the Law nmission that the tribunal should not sit *en banc*; but sit in benches ensuring that one member of the ich must necessarily be a judicial member. The ngth of the CET could be enlarged with reference he number of benches required to be constituted. benches could sit in the different regions of the intry or could even be itinerant benches, as con- ered necessary.

thod of Appointment

The Law Commission has discussed at great length, para 7.8 of its Report, the unfounded apprehension it a tribunal which will replace the courts would be nned by people who would not inspire confidence. me such apprehension was also expressed during the urse of certain discussions. However, we stand con- iced that there is no valid reason for entertaining any ch apprehension. The proposed tribunal should and ould enjoy as much of public confidence as any High urt or the Supreme Court itself does. It would, how- er, depend upon the manner in which and the persons ho are appointed to the Tribunal.

The Law Commission has recommended that the ational Judicial Service Commission recommended by in its 121st Report could be entrusted for making commendations for the appointment of the judicial embers, and with regard to the appointment of non- idicial members, the President of India in consultation ith the UGC could be entrusted with this respon- ibility.

[The (121st report of the Law Commission on "A New Forum for Judicial Appointments" July 1987) has ecommended that National Judicial Service Commis- ion shall consist of 11 members as follows:

1. Chief Justice of India — Chairman
2. Three senior most puisne judges of the Supreme Court
3. Preceding retired Chief Justice of India
4. Three Chief Justices of the high court according to their seniority as Chief Justices
5. Minister of Law and Justice, Government of India
6. Attorney General of India
7. Outstanding law academic

National Judicial Service Commission while deliberating over the Selection and appointment of Judges of a High Court, must coopt the Chief Justice of the High Court in which the vacancy has occurred and which is under the process of being filled-in as well as the Chief Minister of the State in which the high court is situated.]

It is felt that such a composition and method of appointment would certainly inspire public confidence. Human ingenuity, perhaps, cannot devise a method better than the one through the proposed National Judicial Service Commission, in case of the appointment of judicial members and the President of India in consultation with the UGC in case of the appointment of non-judicial members.

However, till the National Judicial Service Commission is agreed upon and constituted, the method of appointment of the judicial members of the proposed CET should be the same as that of Supreme Court Judges.

Age of Retirement

When the appointment of retired Supreme Court judges to the tribunal is also envisaged, the age of retirement of the members of the CET will have to be 68. A different age cannot be contemplated for non-judicial members.

The terms and conditions of service should be those of a Supreme Court judge. Again, differential emoluments and conditions of service cannot be contemplated for non-judicial members. They will have to be uniform for all the members.

The Tribunal will have the right to evolve its own procedure as in case of several other administrative tribunals.

We also endorse the recommendations of the Law Commission that the expenses of the CET should be borne by the Union of India. The expenses of the State Education Tribunal be borne by the concerned state, and those of university and college level tribunals, by the university concerned.

The above would leave questions of the relationship of the Vice Chancellors with the State Government, matters of finance, the relationship of the university with UGC, Vice Chancellor with the Chancellor etc., which we feel ought to be resolved through the models based on the Press Council and the Bar Council of India. As the AIU had suggested, these problems could also be handled through an alternative model which could be termed as 'Collective ombudsman'.

How To Inculcate Values Among Youth

A.P. Sharma*

Education and Values

Historically, interest in values among philosophers and educators dates back to the 3rd century B.C. when Aristotle, the leading Greek educational philosopher showed great interest in character building and development of values related to cognitive as well as knowledge growth of the pupils. In fact there was never any time in the history of education that the educational thinkers ever separated education from values; rather value orientation was always considered as an integral part of education programme. In fact education cannot go without values, neither the act of teaching can be treated separately from values — explicit or implicit.

What are Values?

A value is an idea — a concept about what someone thinks is important in life. When one values something, he or she deems it worthwhile — worth possessing and worth doing or practising or trying to obtain it. The study of values is usually divided into two areas — aesthetics and ethics. Aesthetics refers to the study and justification of what human beings consider beautiful — what they enjoy. Ethics refers to the study and justification of conduct — how people behave. Ethics is related to morals — of what is right and wrong.

Values exist in people's mind. They are standard of conduct, beauty, efficiency or worth that people endorse and try to live upto or maintain. Values are those invaluable ideas of life which people adore and like to live with them until they die. Values are the essence of human good conduct with which one can reach the realm of excellence in life. Values could be reckoned as unparalleled ideas of human beings with which one can exhibit extraordinary courage and fortitude when surrounded by turmoil and failure.

Teaching Values

Fraenkel (1977) discussed some kind of procedure and techniques which he based on the belief that 'being able to identify, able to analyse and assess', were important abilities for all the people to possess. If a person was not aware of certain opinions that were good and he pursued matters in particular situations which he would not have pursued if he were aware of those opinions, he could restrict himself in making (wrong) choices where choice was possible. Therefore, a continuing analysis and assessment of alternatives (during hard circumstances) in schools could help develop the abilities to identify, analyse and assess. Examples of this kind can be given from school life. When a student is confronted by a problem like confusion or state of indecision which has cropped up as a result of some of his wrong actions such as disobedience or even not completing the given assignment, first of all he needs to identify the real problem and know its causes by looking back at his behaviour or action in relation to the problem. If this process is followed he would not only refrain from doing wrong things but also amend his actions in future.

The other important way which could help in inculcation of right values would be to define or clarify values to the students not only at the school level but also at the college level as they are not able to identify them correctly. A lucid explanation of values would surely develop understanding of values and at the same time may lead to develop moral reasoning which is another way of implementing values among students.

Activities that may Inculcate Values

(a) There can be various activities in schools which may help in developing moral values among young people but first of all it is the teacher himself who is a living example to his students in inculcating values by projecting himself in matters of behaviour as well as in other activities wherein he reflects his unbiased, objective and just attitude towards his students. Students are very sensitive and are good observers of their teachers, but most of the teachers take them for granted that they are simply passive listeners who sit and listen silently without any reactions. In this connection Harold Taylor (1954) reflects that there are 'three illusions of innocence' which are prevalent among most of the educators and teachers. They are: The optical illusion, illusion of examination, and illusion about students' ability of responsibility.

(i) Explaining the optical illusion among teachers about their students, Taylor explains that the internal life of each student is different although they are listening to one man. They are dreaming.

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calculating — notes are taken, sketches are done, pictures are drawn. It is an illusion to believe (merely because 50 or 100 students are sitting in a lecture room, all staring in one direction at a man talking, their eyes open) that anything intellectually profitable is necessarily happening.

The second illusion of innocence is the illusion of examination. Merely because students are able to pick out the correct words from groups of five choices,because they can remember answers and facts for a sufficiently long time — that they are educated. What exactly happens is that they borrow notes, copy down from textbooks, etc.

The third illusion is that the students are responsible, that they are still in the process of learning etc. This is the worst illusion of all. Students do know about their institution, university and teachers. They can tell who are the bad teachers, which are soft hearted, which are left or right wing, which are dull, which ones care about them.

b) In fact value education goes on all the time in ools. It permeates not only through the curriculum, also through the day to day interactions among dents and staff. Every academic subject has its own d of activity. Through that activity value education be inculcated. For example, a Social Studies cher may insist that his students 'stick to the facts' in ir discussion of causes and effect of a war, a mathetics teacher can talk of inherent beauty to be found geometric forms. An art teacher may explain how to preciate the beauty contained in a particular creation product of art. A science teacher can explain the ture of certain phenomenon through which truth uld be unveiled. Thus through every subject some rt of value lessons can be imparted.

(c) Besides the activities mentioned above, there uld be other activities which would also lead to value lucation. One teacher may devote one period in a eek on the topic such as poverty, crime, drug abuse, regularity, lethargy, disobedience, insolence etc. Disissions on the topics listed above will not only enghten the students about the dark side of the students' fe but will also lead them to reflect upon their own ehaviour if they are involved in any of the above activities. Self awareness is one of the best activities which ads to a greater understanding of problems than being ointed out by others.

(d) Likewise some teachers may devote a few eriods in a week in some other activities which may ave direct positive effect on the pupils. For example, n a particular period one teacher may ask them to sit in a circle and say 'something nice' about the person sitting to their immediate right or left. Or he may ask to narrate a few good qualities of some national or local leader or social worker about whom they have already read a few days back.

(e) Besides the above activities, there are a few other activities which may have positive effect on the students in developing values in them. One teacher insists that his students must raise their hands before they speak out in class discussions. The other insists that they must enter the class after taking permission, the third one wants them to dress properly, trim their hair and clean their nails. Although all these activities seem to be very small and unimportant, they have far reaching effects on students' behaviour, daily habits and consequently on their character formation.

Concluding Reflections

A true teacher is an educator too, who not only teaches and plans for the education of his students but also makes his own decisions about 'what to teach and how to teach ?' at the same time constantly influencing them (students) in the formation of their values. Never before the need of inculcation of values among students was felt so much as it is being felt now when it appears that values have suddenly disappeared from the school premises. It is so painful that Indian education is moving in a wrong direction and any one can refuse to believe that dominant tone of the older generation with its caution, its hesitancy, its conservatism, its fears for Indian virtues and its nationalist dogmas, has a compelling vision of life to present to Indian youth. Taylor says, 'what the youth really need today is breathing space, wider views, freedom to grow, encouragement, evidence of faith, leadership in humanitarianism and idealism, and the feeling that the future is to some degree open and safe.'

Children catch their values through the atmosphere, and are infected by courage and cynicism, love and hate, generosity and meanness, snobbery and kindness, selfishness and unselfishness. The formal part of the school and college programme has very little to do with such values specially when the teacher's main concern is to inculcate knowledge only. In fact the life and the environment on the campus has to do very much with that. The students, to a large extent, are tolerant. They fit themselves to the social situation which the college and school arrange for them. Therefore, it is very much essential that social environment should be congenial and liberal, at the same time be helpful in developing democratic attitude. Since value formation goes on consciously and unconsciously all the time in schools, says Jack Fraenkel (1977) and it permeates through the curriculum and day to day interactions of students and staff, it is imperative for the teachers to be consciously aware of their behaviour or dealings with the students during formal and informal occasions of their meetings with them.

References

1. Bower, William C. **Moral and Spiritual Values in Education,** Lexington : University of Kentucky Press, 1952.
2. Fraenkel, Jack R. **How to Teach About Values,** New Jersey : Prentice-Hall, 1977.
3. Gudundsdottir, Sirgun. "Values in Pedagog
Knowledge", **Journal of Teacher Education** Vol. 4
June, 1990.
4. Hiriyanna, M. **The Mission of Philosophy,** Mysore: K
Publishers, 1960.
5. Krischenbaum, Howard. **Advanced Value Clarification**
nia: University Associates, 1977.
6. Power, Edward J. **Philosophy of Education** New Jersey: Pre
Hall, 1982.
7. Sharma, A.P. "The Ideal of Life is Education", **Lokmanya**
shak, Vol.2, 1989.
8. Taylor, Harold. **On Education and Freedom,** New Yo
Abelard-Schuman,1954.

TILTED SCALES

(Contd. from page 1)

annoyed, I suggested to him that he should have a good active vocabulary. I was shocked when I realized that he was not familiar with the word 'vocabulary' itself. It may be worth trying to test the students' efficiency in English before admitting them to teacher education courses or postgraduate courses.

I am also reminded here of a talk given by R.E. Underwood, the British Council expert, at the Nagpur session of the All India English Teachers' Conference. According to him, the average lecturer (i) has studied hard for his M.A. in literature and is largely unwilling and unprepared to teach language, (ii) prefers the lecture to the dialogue, (iii) is disinclined to risk exposure by preparing his own language teaching materials, and (iv) may not speak and write correct English him/herself.

At the same time, I would like to emphasize that the teacher of English gets an undergraduate syllabus in which scales have often heavily tilted in favour of literature. The poetry selections, for instance, are still dominated by Shakespeare,Blake, Wordsworth, Tennyson, De la Mare, Davies, Eliot and others. Shakespeare's plays are even now prescribed at the undergraduate level in some form or the other. A researcher has noted that even in the Short Shakespeare Edition of Julius Ceasar there are 154 archaic words and 400 sentences containing old-fashioned elements of structure and vocabulary. One wonders how the teacher will fruitfully use the book for students who do not know the rudiments of modern English usage, who are yet to learn how to make the subject and the verb agree.

It has been argued, not unjustifiably, that literat
is useful even in language learning as narrative a
drama give contexts in which every day language
shown in operation. The literary texts are not be
increasingly used keeping the 'language scheme in t
foreground'. A 'Language through Literature' cou
designed at the Central Institute of English & Fore
Languages, Hyderabad, is an example. The cou
designers do not wish to introduce the students
literary landmarks, but to expose them to the liv
language, as it exists today. It may be advisable
prescribe simple and interesting pieces from the Ind
writing in English. The students may find them reada
both thematically and linguistically. In certain cours
Bombay University has jettisoned Hardy and Galsw
thy in favour of such elementary but useful skills
comprehension, letter writing, answering the phone
disagreeing with someone courteously. It has been ap
remarked that rules of grammar will be useless with
the rules of use. G.B.Shah wrote to The Times in 1
about the split infinitives: 'It is of no consequen
whether he decided to go quickly, quickly to go
quickly go. The important thing is that he should qu
ly go'. Churchill commented against sentences t
went to considerable lengths to avoid a prepositio
ending : 'This is the sort of English up with which I
not put'. What people want to do with language, h
ever, as Wilkins points out, is more important t
mastery of the language as an unapplied system.
interesting to note, however, that a popular joke am
the teachers of English in first year B.A. refers to
paper on 'Communication Skills' as 'Communica
kills'.

Business As Usual

eading for a social awareness and action movement to bring out changes in public attitude to grave social problems, Dr. I. S. Swaminathan, President, National Academy of Agricul- ural Sciences of India, deplored the mind-set of those who are ot controlling our political, economic and ecological destiny. r. Swaminathan was delivering the Convocation Address at the 1st Convocation of The Tata Institute of Social Sciences, Bom- ay. He said, "What use is it to have many fine educational and ocial science institutions all over the country, if we are not able promote a sense of equality among all human beings, regard- ess of sex, religion or language? We see in front of our eyes the ollapse of all the values for which Gandhiji, Tilak, Tagore and ther great Indian thinkers lived and worked. Yet we are content ith a 'business as usual' approach in social matters. A 'busi- ess as usual' approach is disastrous whether in relation to the elease of green house gases in the atmosphere or the persistence f political and social indifference to population growth, plight f the poor or damage to life support systems". Excerpts

CONVOCATION

cial sciences today occupy a l position in bringing about inds of attitudinal and or- ational changes needed for ng with three of our most us problems – unsustainable lation growth, unacceptable s of poverty and growing ge to the basic life support sys- of land, water, flora, fauna and tmosphere. It is characteristic vision of the House of Tatas research and education were rded the highest priority in philanthropic agenda. In this , the Tata family has spear- led in the field of philanthropy same principle which was enun- ed by John D. Rockefeller ral decades ago in the United es in the following words.

The best philanthropy is the that does the most good and the t harm. Help that nourishes lization at its very root, that most lely disseminates health, hteousness, and happiness, is not what is usually called charity. The fundamental thing in all help is education. If the people can be educated to help themselves, we strike at the root of many of the evils of the world".

I believe a social awareness and action movement designed to bring about changes in public attitude to grave social problems is the most urgent need of not only contemporary India but also of contemporary societies world wide.

Let me illustrate with a few examples. In 1978, the World Meteorological organisation sponsored the first World Climate Conference in Geneva, where specialists from all over the world discussed the impact of climate on human activities such as agriculture and industry. In 1990, the same organisation sponsored the Second World Climate Conference in Geneva which was almost entirely devoted to examining the impact of human activities on climate. It was concluded at this conference that the life styles and the pathways of development associated with economic affluence are leading to potential changes in temperature, precipitation and sea level at rates unprecedented in the past 10,000 years. Six years ago, global ozone depletion had not been detected. Until recently, the best estimate of ozone depletion in 1990 was 1 percent. Early last month, the National Aeronautical and Space Administration (NASA) of the United States of America found that depletion over the United States has already reached 4 to 5 percent. There is more concern now on this phenomenon among the public because of the prediction of the Environmental Protection Agency of USA, that if this trend continues millions of Americans may contract skin cancer and that over 2,00,000 people may die as a result of enhanced ultraviolet radiation, in another 25 years.

Global warming, sea level rise, ozone layer depletion, acid rain, accumulation of toxic and non-biodegradable wastes and forest denudation are all now part of current vocabulary. Business is however continuing as usual. Talk about the welfare of future generations does not seem to attract the needed attention of political leaders in industrialised nations because by and large in democratic societies political vision seems to cover only the time span between two elections. Hence patent protection often tends to evoke greater interest than planet protection, as is evident from the records of the GATT - TRIPS (Trade-related intellectual property rights) negotiations. In poor nations struggling with the task of providing food, water, shelter and other basic needs to millions of citizens, as well of servicing external and internal debt, discussions on the environment are usually regarded as a luxury they can ill afford. Unfortunately, however, it is the poor and marginalised who suffer most from environmental breakdown.

While political leaders shy away from the problems of the future, the attitudinal scenario among technologists also merits the consideration of social scientists.

Let me illustrate this by continuing to discuss the climate example. Among the heat-trapping gases in the atmosphere, carbon dioxide is the most important. Its concentration in the atmosphere is now growing by 0.5 percent per year. Since the problem is aggravated because of deforestation and a consequent reduction in carbon "stores" or "sinks", there is a growing volume of literature on incorporating carbon storage goals in national development programmes. As a result, forests tend to be discussed in current scientific literature in terms of their capacity to store carbon. The scientific rationale for tree planting thus becomes one of achieving a balance between carbon emissions and carbon absorption.

As social scientists, you should be concerned with treating forests as just carbon sinks. Lord Buddha said that tree is the only living organism capable of unilateral love since the tree provides shade even to the axeman who comes to cut it. Amerindians in the Amazon belt of South America have a saying :

"Forests hold the sky up. When forests are destroyed the sky falls and men perish". To them, forests were the very foundations of life on earth. Such a concept of forests has been captured by poets in many lanugages all over the world and I would like to quote one of them written by Jacques Brosse.

> "All over the world, there lingers on the memory of a giant tree, the primal tree, rising up from the centre of the Earth to the heavens and ordering the universe around it. It united the three worlds: its roots plunged down into subterranean abysses, its loftiest branches touched the empyrean. Thanks to the Tree, it became possible to breathe the air, to all the creatures that then appeared on Earth it dispensed its fruit, ripened by the sun and nourished by the water which it drew from the soil. From the sky it attracted the lightening from which man made fire and, beckoning skyward, where clouds gathered around its crown, it bade the life-giving rains to fall. The Tree was the source of all life and of all regeneration"

The shift in attitude from looking at the forest as a carbon store to one at the source of all life is the kind of shift you need to try to bring about in contemporary society. I call this shift the 'greening' of the mind – a mind which cares, saves and shares.

This dichotomy in thought and action is all pervasive in today's world. Let us take hunger as another example. All international reports agree that over a billion people live in households too poor to obtain the food they need for a healthy and productive life. According to a group of specialists who met in Bellagio, Italy, two years ago to discuss how hunger can be overcome during the decade of the nineties, people suffering from endemic hunger can be grouped into the following categories:

(a) Half of the world's hungry are too poor even to obtain the food they need to maintain activity.

(b) One child in six is born underweight and one in three is underweight by age 5.

(c) Hundreds of million suffer from anaemia, goiter and impaired sight from diets with too little iron, iodine or vitamin A.

At current levels of food production in the world, it will be possible to make a dent on this problem if a sum of about US $ 10 billion becomes available each year in ne
reallocated funds. Such
programme for the conquest
hunger may need only the diversi
of 1% of the global annual mili
expenditure of over US $ 1 trilli
This is an oft-repeated statemen
several international fora but is
to evoke a positive response br
from industrialised and develop
countries. In fact nearly 80 perce
of the arms sold to develop
countries comes from the five p
manent members of the U
Security Council. This is a stran
notion of security. Social scient
have to replace this notion by
widespread understanding of
need to make the livelihood secur
of the poor and the ecologi
security of the country the guid
principles of a national security s
tem. This will not be an easy ta
in view of the growing violence in
human heart. Gandhiji once ask
how can we be non-violent to nat
if we are violent to each other?

Violence breeds on intolera
and indifference to the feelings
others. If we do not respect and l
cultural diversity,we are unlikely
appreciate the value of biolog
diversity. Yet, biological diversi
the very basis of sustainable adv
ces in biological productivity.
the beginning of the First Five Y
Plan in 1951, our population was
million. According to the f
results of the 1991 census,
population is now 844 milli
Famines were frequent in the Ind
sub-continent when our popula
was 300 million. Today, we do
face famines but endemic hung
widespread. This is in a way bo
measure of the progress we
made in increasing agricult
production and producti
through the intelligent use
biological diversity and techn
on the one hand, and the lac
similar progress in improving
purchasing power of the rural
urban poor through diversifica
of employment opportunities
the other. Prof. Amartya Sen
been pleading for enhancing

omic entitlements of the poor event chronic hunger. I have pleading for linking economic ements and ecological obligain a mutually reinforcing mann the part of every citizen – or poor. The affluent sections e community have a particular ation in the area of environprotection since their unsusble life styles are important es of our ecological ills. A poor er who needs a bank loan for ng a tubewell has to conform to ain regulations designed to ent the over-exploitation of the fer. On the other hand, a rich er lord" who does not need a to drill a deep tubewell is under obligation to ensure the susible management of the ground r resources. You must have obed several such anamolies in r rural campus in the Osabad district.

Vhat has surprised me most ut the mind-set of those who are controlling our political, nomic and ecological destiny is absence of a sense of shock n the census figures were pubed. Statements such as "India is ing one Australia to its populaeach year" appeared in our spapers without any reference ts disastrous implications for h employment generation and ironment protection. What is n more deplorable is the absence feeling of shame that the femalele sex ratio further declined from per 1000 in 1981 to 929 in 1991. s is unpardonable evidence of indifference to the status of men and the well-being of the nale child and mother. What use t to have many fine educational l social science institutions all er the country, if we are not able promote a sense of equality ong all human beings, regardless sex, religion or language? We e in front of our eyes the collapse all the values for which Gandhiji, lak, Tagore and other great Inan thinkers lived and worked. Yet are content with a "business as usual" approach in social matters. A "business as usual" approach is disastrous whether in relation to the release of green house gases in the atmosphere or the persistence of political and social indifference to population growth, plight of the poor or damage to life support systems.

To those of you who have just taken your degrees at this convocation, I wish to say that my spending time on unpleasant facts on a very pleasant occasion is only because of my desire that you should experience sustainable happiness. You are going to spend a significant portion of your life in the 21st century. It is therefore important that you should give thought to the kind of India you would like to live in. We live in a dynamic world and without vision, people would perish. I recall the late Dr. Homi Bhabha mentioning in his Presidential address at the first U.N. conference on the Peaceful Uses of Atomic Energy held in Geneva in 1955 that atomic power, which was not then economically attractive, would soon become economically viable since nonrenewable sources of energy could not for long be priced at very low levels. His prediction started becoming true when in the early seventies fossil fuels began to get priced in a manner that reflected their real value. A new paradigm of development involving concurrent attention to issues relating to ecological sustainability, economic efficiency, equity and peoples' participation would need new developmental pathways, mental attitudes and measurement tools.

The first among these requirements in respect for diversity – cultural, social and biological. In this connection, I am reminded of the story of Mullah Masrudin.

Masrudin had two daughters. One was married to a farmer, the other to a brick maker. One day they both visited him.

The farmer's wife said

> "My husband has just finished sowing. If it rains, he will buy me a new dress"

The other said "My husband has just made a huge number of bricks, ready for firing. If it does not rain, he will buy me a new dress.

> "One of you may be worth something", said the Mullah, "but I could not say which"

Let me close this address with a plea for new measurement and educational tools in rural India, integrating the principles of ecology, economics and equity.

The Human Development Index published by the UN Development Programme in 1990 showed that human development as measured by indicators such as Infant mortality rate, literacy and longevity is not necessarily related to GNP. This is very evident from the situation prevailing within our country. The State of Kerala has a population growth rate approaching NRRI, very low infant mortality rate, total literacy and a sex ratio similar to the biological rate. Yet the per capita income in Kerala is lower than that of Punjab – a clear reflection of the power of social priorities and the response of the State Government as reflected in resource allocation for different sectors.

Herman Daly and John Cobb have proposed an Index of Sustainable Economic Welfare which takes into account the impact of development on environmental capital. In the context of our needs, I propose that we develop for each Block a Livelihood Security Index (LSI). My colleagues and I at the Centre for Research on Sustainable Agricultural and Rural Development, Madras, are currently engaged in developing such an Index in two blocks in the Union Territory of Pondicherry and in the Thanjavur district of Tamil Nadu.

LSI has three major components.

First, a careful analysis is undertaken of the relationship between human and animal populations and the carrying capacity of land and water. This analysis will provide insights into the extent of anthropogenic pressure on land and water.

Second, an analysis is made of the number of adults in the village employed in the primary, secondary and tertiary sectors of economic activity. This ratio will help to understand the extent to which diversified opportunities for employment exist and the proportion between on-farm and off-farm employment. The greater the diversification, the greater is the insulation from acute distress in years of drought or other natural calamities leading to severe crop losses.

Third, data are collected on female literacy and employment, since this gives information both on women's status and household food security.

Thus, ecological, economic and equity factors are inter-woven in the Livelihood Security Index, which is a good measure of food and nutrition security at the household level. All these data are collected by villagers themselves, so that the very process of developing the LSI for the village becomes an educational tool for generating an awareness of the need for limiting the growth of human and animal populations at levels that nature can sustain.

Jamsetji, the Founder of the House of Tatas, once said that a nation advances when its most gifted individuals are enabled to be of the greatest service to the country. He wanted that the educated should regard themselves as trustees of the knowledge they possess and use it for the benefit of those less fortunate than themselves. I find in Rural India large numbers of educated men and women looking for opportunities for meaningful Many of them have degrees in va sciences. Presently, there is in variably a mismatch betwee employment opportunities an employable skills. However, the graduates learn new skills very fa whether in aquaculture or agr forestry, irrespective of the field which they studied in colleges. W should therefore stop tamperi with the University syllabus and sy tem. Instead, we need a chain post-University, non-degree trai ing institutions for enhancin human effectiveness by ending th divorce between opportunities an capabilities at the local level. Su institutions are best established villages jointly with the rural peopl so that successful farm men an women and rural artisans pa ticipate along with professionals programmes designed to impa new skills.

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Affiliated to University of Mysore for B.Pharm Course And Pharmacy Council of India, New Delhi, for B.Pharm & D.Pharm Course.

ADMISSION NOTIFICATION 1991-92

Applications are invited for admission to Diploma in Pharmacy (D.Pharm) Bachelor of Pharmacy (B.Pharm) and Master of Pharm (M.Pharm) for the academic year 1991-92.

Eligibility:

1. Diploma in Pharmacy: Two years course.
(a) Candidates who have passed S.S.L.C. or equivalent examinations are eligible for admission to 1 Year D. Pharm.
(b) Candidates who have passed HSC/PUC/PDC or I. B.Sc., with Science combination are eligible for admission to II D. Pharm.

2. Bachelor of Pharmacy: Four Years Course.
(a) Candidates who have passed II PUC or equivalent examinations with Physics (P) Chemistry (C) Mathematics (M) Biology (B) or PCB PCM securing not less than 50% of Marks (Both years of PUC or its equivalent) with Science subjects are eligible for admission
OR
(b) Candidates having 50% aggregate marks in the Final D.Pharm of the two year D.Pharm course conducted by an authority approved Pharmacy Council of India are eligible for admission.
OR
(c) B.Sc. Degree of Mysore University with PCM/PCB or a B.Sc., Degree with the same combination of subject of any other University a minimum of 50% of the aggregate marks of all the 3 years of examination, in case of SC/ST the minimum marks required shall be

3. Master of Pharmacy (M.Pharm Degree) Course in Industrial Pharmacy - Two years course.
Admission shall be open only for candidates who
(a) have passed the B.Pharm degree of University of Mysore or any other recognized Indian University, and
(b) has secured not less than 55% marks in the aggregate of all parts of the B.Pharm degree.

Application form with Prospectus, can be had from the College on payment of Rs. 50/- by Cash or Rs.55/- by D.D. or Crossed Postal order drawn in favour of Principal, J.S.S. College of Pharmacy, Sri Shivarathreeshwara Nagara, Mysore - 570 015. Money orders not be accepted.

Hostel facilities are available to both boys and girls.

The Session will start from 15th July 1991 for D.Pharm and 5th August 1991 for B.Pharm.

H.S. Basava
SECRETAR

Environmental Biologists to Meet at Rewa

e 12th annual session of the emy of Environmental Biology be organised from 19-21 mber, 1991 at the School of ronmental Biology, A.P. S. ersity, Rewa (M.P.) . On this ion a Symposium on "Environ- tal Management, Resource ns, Conservation, Pollution itoring and Abatement" is also osed to be held.

nvironmental degradation and anagement are the major chal- es faced by the country today. symposium is being organised the aim to gather current vledge on the state of India's ronment. The symposium will g experts from diverse fields at mmon platform to share their s on environmental problems, acts, solutions and to discuss evolve management guidelines anage the existing environmen- ystem.

The topics proposed to be dis- sed include (1) Environmental pact Assessment and Manage- nt: Case studies and status iews; (2) Ecotoxicology : Impact toxic substances on environmen- systems and their components; Water pollution and impacted sh water resources; (4) Waste cycling disposal and impacts of in- strial and domestic discharges on tic systems; (5) Forest resource nservation, utilization and anagement; (6) Ethnoecology : pacts of ethnic systems on en- ronment and managing the im- cted environments; (7) Evaluation d assessment of environmental laws and policies; and (8) Evaluation of status, sustained development and management of water and terrestrial resources.

Further details can be had from Dr. Ajay K. Awasthi, Organising Secretary, 12th Annual Session of AEB, School of Environment Biology, Awadhesh Pratap Singh University, Rewa 406003 (M.P.).

CAMPUS NEWS

Industry-Institute Interaction

A one day seminar on Modernisation/Energy Conservation was recently organised as a part of Industry-Institute Interaction Programme at Thapar Technology Campus of the Thapar Institute of Engineering and Technology (TIET) in collaboration with the Patiala District Chamber of Industries.

Welcoming the guests Professor P.K. Kapoor, Head, Centre for Industrial Liaison & Placement highlighted the various activities undertaken by Thapar Technology Campus for effective Industry-Institute Interaction. He disclosed that in view of the excellent work done by the Thapar Technology Campus, comprising Thapar Institute of Engineering and Technology, Thapar Corporate Research and Development Centre and Thapar Polytechnic, the Ministry of Human Resource Development had set up an Industry-Institute Interaction Cell and the present Seminar had been organised under that programme.

Mr. Sanjiv Kumar, Managing Director, SANRAJ Group of Industries and President, Patiala District Chamber of Industries in his keynote address stressed the importance of energy conservation and modernisation in the present industrial scenario where a clear shift from seller's market to buyer's market was perceptible.

Professor Dr. T.R. Anatharaman, Director, TIET, who presided, emphasised that at present effective Industry-Institute Interaction was not taking place and there was need to strengthen such interaction. He also explained at length the open house policy of Thapar Technology Campus for industries located in Punjab.

Mr. S.R. Aggarwal, Member-Secretary, Patiala Pollution Control Board explained the vaious steps that Punjab Pollution Control Board was taking for making the pollution free atmosphere.

Over 40 industrialists belonging to Patiala District attended the seminar.

IGNOU Introduces B.Sc. Course

The Indira Gandhi National Open University (IGNOU) proposes to introduce B.Sc. (Bachelor of Science) as a pilot project from Nov.'91. This programme shall also include application oriented courses like T.V. and Radio Repair, Poultry Farming, horticulture, Analysis of soil & water with emphasis on pollution control, in the final year.

Applications forms for B.Sc. shall be available from 23rd June'91 at the Study Centres of IGNOU. Initially 3000 students shall be admitted at 30 study centres (100 per study centre) throughout the country.

Facility for Laboratory work is to be offered at these study centres and completion of Lab. work shall be compulsory in order to obtain B.Sc.

Initially all students possessing 10+2 which Science or equivalent qualifications shall be admitted in order of study centre-wise-merit.

B.Sc. shall be offered in English & Hindi. It can be completed in minimum period of 3 years and a maximum period of 8 years.

Prize Distribution at TIET

Shri K.L.Watts, Advisor to Governor of Punjab was the Chief Guest at the Annual Academic Prize Distribution Function recently organised by the Thapar Institute of Engineering and Technology. While addressing the students Shri Watts said that examination was a test only at a given point of time, whereas life was a series of examinations. He further stressed the need for science and technology in every field

"Always remember your priorities; work for excellence in profession; keep always your options open; have courage of conviction; and be a good human being," he advised the students and added that their generation should take the country to the heights higher than what the present generation is handing over to them.

International Meet on Indian and Asian Astronomies

The B.M.Birla Science Centre, Hyderabad and the B.M.Birla Science and Technology Centre, Jaipur, in collaboration with the Department of Science and Technology, Government of Rajasthan, proposes to organise an International Symposium on "Indian and other Asiatic Astronomies from December 12-16, 1991 at Hyderabad (December 12-14, 1991) and Jaipur (December 16, 1991).

Eminent scholars from all over the world are expected to participate in this symposium. While the symposium will consist mostly of invited talks by internationally renowned scholars, a few contributions would also be included on the following topics: (1) Babylonian Astronomy; (2) Vedic Astronomy; (3) Siddhantic Astronomy Chinese, Tibetan, Japanese other Asiatic Astronomies, Astronomy in Islamic Cultu Areas/countries; (6) Indo Arab Turko Arab interaction in the fe of Astronomy; (7) The Gre Asiatic interaction; and (8) Oth relevant topics including Scien and Technology of Ancient India

Further information and registration form can be obtain from: Dr. B.G. Sidharth, B.M. B Science Centre, Adarsh Nag Hyderabad 500 463.

News from Agril. Universities

HP Krishi Vishvavidyalaya Convocation

The Deputy Prime Minister and Minister for Agriculture Mr. Devi Lal called for improving the lot of 60-70 percent small and marginal poor farmers in the country, who despite technological advances in agriculture, had remained deprived of the benefits of the latest scientific know-how. He was addressing the Seventh Convocation of the Himachal Pradesh Krishi Vishvavidyalaya, Palampur.

Mr.Devi Lal said the agricultural technology evolved so far, had relevance to the irrigated areas only and had mostly benefited big farmers. There was an urgent need to evolve suitable technology for use by the small farmers and to exploit production potential of seventy-four percent unirrigated areas. He pointed out that with the passage of time new challenges were emerging in agriculture and there would be increasing demand for foodgrains in the coming time. He said that country would need 22 million tonnes of foodgrains by the turn of the century over the present record level of about 18 million tonnes of foodgrains. The gap of 4 million to nes could easily be met with if t scientists motivated and mobilis the farmers to adopt new knowled and by using the available resourc in the country.

The Deputy Prime Minister s the Union Government had fram a new agriculture policy und which top priority had been corded to increase the productiv of vast rainfed areas with the use dryland technology and conserv the soil and water on the watersh management basis. He called up the scientists to evolve suita dryland technology without lo much time. He said that the reco mendations of the Internatio Seminar on dryland agriculture h recently in Delhi could go a lo way in improving the productivity dryland agriculture. He e phasised the need to execute t recommendations of the seminar

Mr. Devi Lal observed that th was a big gap in research and ex sion education leading to failure providing extension cover t small landholders. He revealed

w agriculture policy had en-
d comprehensive plans to
lel the existing extension sys-
o bring about effective im-
ements over the existing
ammes at the grassroot levels.

e Union Government had
ed to create a National net-
of extension education service
country in the form of Krishi
n Kendras to be established at
district headquarter, he said.

e Deputy Prime Minister dis-
d that the proposal of the
achal Pradesh Government for
lishing Krishi Vigyan Kendras
e State was under active con-
ation of the Indian Council of
cultural Research and three
dras in addition to two already
tioning in the State were being
lished soon.

r. Devi Lal further said that the
iculture economy of Himachal
desh was different than that of
other parts of the country be-
se of its geophysical and varied
-climatic conditions. Crops
insignificant scope to add much
e State's economy as more than
percent farmers practised
iculture for their sustenance.
mmercial agricultue was not pos-
e in the State because of various
all holdings and 80 percent crop
a being rainfed. However, the
te with small population of 51
h could achieve self-sufficiency
foodgrains if the farmers were
tivated to apply the agriculture
hnology and the available resour-
s were fully exploited, he added.

The Deputy Prime Minister said
e economy of the State was mainly
ked with Horticulture and
getable cultivation. These two
ctors generated 9 crore rupees
orth economic activity in the State and there was a vast scope for further expansion. The State had earned a name in the country for producing off-season vegetables and quality disease free seeds which could not be produced in plains. Mr. Devi Lal called upon the Scientists to maintain this position of the State by exploring new horizons for producing more seeds for other States and to boost its economy. He expressed the hope that Himachal Pradesh could become a Seed State in the Country.

The Forests wealth of the State held bold promise for the economic upliftment and self employment for the people. Appreciating the initiative of the State Government for launching the "Van Lagao, Rozi Kamao" project in the State recently, Mr. Devi Lal felt the efforts of the Government would not only help in maintaining the ecosystem but also provide self-employment to the youth. He also complimented the State for promoting animal husbandry which should be used for further improvement and economic gains by providing suitable research support. The Deputy Prime Minister hoped that the Veterinary College of the University would conduct useful research for the protection of cattle wealth from various diseases. The rabbits rearing, fisheries and sheep and goat farming were also important avocations to the State's economic well-being. There was a need to establish village-based industrial units for spinning of angora wool and peshmina. Mr. Devi Lal expressed his happiness that the milk production in the State had increased three times with the launching of Indo-German Livestock Improvement Project during seventies.

The concept of Agricultural University was to produce graduates and postgraduates with skill and training to adopt agri-based avocations shuning hankering after jobs. Emphasising the need to make agricultural education practice and job-oriented, the Deputy Prime Minister appreciated the initiative of the university in implementing the Rural Agriculture Work Experience Scheme for final year agriculture students before they were awarded degrees. Such students with rural experience in agriculture could become good guide to the farmers and adopt agri-based avocations for their livelihood.

The Governor of Himachal Pradesh and Chancellor of the University, Mr. Virender Verma presided over the convocation and awarded 165 graduate and postgraduate degrees and six gold medals to the students.

Dr. Kirti Singh, Vice-Chancellor, while presenting the report of the University appealed the government and the Indian Council of Agricultural Research for providing more financial assistance for creating physical facilities to meet the requirement of the existing constituent colleges and two new colleges i.e. the College of Home Science and the College of Basic Sciences. He said that the College of Home Science would not only meet the requirement of home science education for rural women but would also impart training to the rural women in agriculture and home-stead vocations. The Vice-Chancellor also gave a brief resume of the future programmes of the University for furthering the cause of agriculture and home science and veterinary education, research and extension education.

News from UGC

Countrywide Classroom Programme

Between 25th June to 29th June, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

1st Transmission

1.00 p.m. to 2.00 p.m.

25.6.91

"Instrumental Techniques"
"AIDS - II"

26.6.91

"Solar Research - IV"
"Satavahana Coins"
"Principles of Biosystematics - III : The Practice of Classification"

27.6.91

"Computer : The Stupid Genius"
"Studying Shakespeare in Text and Performance "

28.6.91

"Quasi Crystals - Beyond Conventional Symmetry"
"Years After Independence"
"Learning From Nature - II : Back to Nature"

29.6.91

"Communication Courses - An Over View By Prof. K.E. Eapen"
"The Pursuit"

2nd Transmission

4.00 p.m. to 5.00 p.m.

25.6.91

"Stain Removing Techniques"
"How to Stand on Giant Shoulders - II"
"History of Tuberculosis - II"

26.6.91

"Risk of Failure"
"Indo-Roman Trade - II : Coins"
"Wars Within Us - Immunology I"

27.6.91

"Camera Shutter Speed"
"Lore in Tulu"
"Towards Better Spoken English - II : Vowel Sounds"

28.6.91

"A Lecture by Prof. Philip Morrison - I"
"Conserving America - Champions of Wildlife -"

29.6.91

"Communication Courses - An Over View by Prof. K.E. Eapen"
"The Pursuit"

Support for NSI Projects

The University Grants Commission (UGC) will support two major research projects namely Heavy Ion Reaction Analyser (HIRA), and Gamma Detector Array (GDA
the Nuclear Science Centre (NS
New Delhi, with a financial outla
Rs. 190 lakhs during 1991-95

The HIRA is a powerful tool
the production and study of ex
particles, to probe into nucle
structure/deformation, studies
nuclear, atomic and molecul
physics and those related
astrophysics etc. The University
Calicut, Bangalore Universi
North Eastern Hill Universit
Kurukshetra University, Panja
University, Banaras Hindu Unive
sity and Aligarh Muslim Universi
are also associated with this proje
The multidetector GDA project
planned to provide front-ranki
research in the area of nuclear stru
ture. The universities associat
with the GDA project are Del
University, Panjab Universit
Banaras Hindu University, Andh
University, M.L. University
Baroda, Bombay University a
M.D. Sukhadia Universit
Udaipur. It is also proposed
combine GDA with HIRA facil
which will have the power of look
into extremely weak reaction cha
nels making it possible to study e
otic nuclei. This combination h
been tried at only a few places in t
world.

Set up in 1984 as an inter-unive
sity centre, the NSC aims to provi
frontline research facilities in t
university sector for accelerato
oriented research in various fiel
such as Atomic Physics, Condens
Matter Physics, Nuclear Chemist
Bio-Sciences and various alli
areas besides the fundamen
Nuclear Physics. The Centre will b
connected with the universities a
other institutions to provide
balanced manpowers growth, b
scientific and technical.

News from Abroad

Towards A Better Educated Britain

e British Government has hed a white paper on higher tion voicing a national wish for er educated Britain with the ility to teach more students for less money. The docu- entitled "Higher Education: A Framework" suggests a single ng structure (with separate ng councils for England, Scot- and Wales); greater cost-ef- cy through more competition etter use of resources; degree ding powers to all major in- ons; the right to use the title of rsity; a United-Kingdom-wide ty unit developed by institu- ; funding-related quality as- nent by the funding councils.

ke the Universities Funding cils and the Polytechnics and ges Funding Council, the new ing councils will be inde- ent public bodies with mem- appointed by the relevant etary of State, each with a part- chairman and full-time chief utive, and funding relationships the Government will be similar ose already in place.

he Open University — which hes 13 per cent of all degree ents in the United Kingdom and rrently directly funded by the ernment, will be brought under unding ambit of the new council England, as well the Royal Col- of Art and the Cranfield In- te of Technology.

Crucial to the new framework, White Paper says, and to con- ed efficient expansion while ntaining quality, is a single fund- mechanism to encourage op- um use of resources across the le system. Merging the Universities Funding Council and the Polytechnics and Colleges Funding Council would have the following benefits:

- competition for funds and students on an equal basis;
- elimination of unjustified differences in funding methodologies in sectors which has similar unit costs for teaching;
- capital spending allocations determined across the whole system;
- a common basis for quality - and for pump-priming initiatives - in relation to funding;
- increased scope for coordination and rationalisation across the whole of higher education.

The paper stresses the importance of maintaining diversity and the "distinctive missions" of individual institutions — to the point of the "linking of funding allocations with these missions throughout higher education".

After years of often heated debate in higher education circles over that most elusive of crucial factors, quality, the government opted for fairly "hands-off" arrangements, leaving responsibility largely in the hands of individual institutions.

The Department of Education and Science's Bird Review of the Council for National Academic Awards last year recommended degree awarding powers for a wider range of institutions: namely polytechnics with teaching and research accreditation.

The Government, however, decided to extend degree awarding powers to all polytechnics and other major institutions which, it says, meet criteria about which it has an "open mind'" but which must include effective internal validation and review processes.

The criteria will be decided following consultation, the White Paper says, but it expects that only about 10 per cent of all higher education to be provided in institutions which do not have degree awarding powers (and they must seek validation from other institutions). With no major role left for the CNAA, it will be wound up.

Institutions wanting degree awarding status will have to seek permission from the relevant Secretary of State, but in future the Government will decide whether such decisions should be advised by the funding councils, new quality audit unit or special adhoc committees.

The Government accepted the view that a unitary system of higher education would require a single quality audit unit — such as that set up by the Committee of Vice Chancellors and Principals — to enhance regulation.

The unit will be expected to have industrial, professional and academic members. "The Government intends to include reserve powers in the legislation to ensure the satisfactory establishment of the unit".

On the other end of the scale, assessment of quality of provision will be the job of new units to be set up in the funding councils, with full-time staff recruited initially from Her Majesty's Inspectorate.

The Government is determined that quality assessment should inform funding decisions, through "quantifiable outcomes" such as performance indicators and calculations of value-added and through external judgements.

The funding councils will also be expected to monitor quality across higher education, for example the development of performance indicators, access policies, industry links and industrial and commercial relevance improvision.

Polytechnics and colleges will in future be able to bid for part of the £680 million per year put into universities for research support. This sum is meant to provide "well-found laboratories" to allow researchers to bid for money from research councils for specific projects.

The White Paper rejects the idea of putting all research money through the research councils, opting instead to retain the dual support system whereby the new higher education funding body and the research councils will each fund research.

The result will be, in the White Paper's words, that "many more institutions" will be "eligible for general research funding" which has previously gone almost entirely to universities. The money will be paid out according to "the broad research missions of present universities, polytechnics and colleges".

The change will involve abolishing the £248 million which the Universities Funding Council is spending this year on research support related directly to student numbers. Polytechnics have so many students that they would be able to claim half of this money at once it were continued. Instead the new funding body will allot money mainly in accordance with perceived quality.

This will involve a new procedure of measuring research outputs from different institutions and dividing the available research money according to how successfully they have used previous years' grants.

While teaching and research funding could be separated at a later stage, with general research routed through the research councils or a new funding agency, a single channel should be maintained at present along the lines of the UFC, for general research funding alongside funding for teaching.

This would provide an overview of public funding and the financial positions of institutions, allow for teaching and research quality to be assessed on an equal footing across higher education, and allow institutions to plan research commitments alongside those of teaching.

To retain the advantages of selective funding, the paper adds, arrangements for rewarding high-quality research will need to be developed. Research funding tied to student numbers will be phased out. "The Government wishes to see continuing emphasis on applied and strategic research."

Devolution of the eight Scottish universities, proposed in 1985 to allow coherent higher educational planning north of the border has finally been announced.

A new Scottish funding council will be now responsible for both the universities and centrally funded colleges, which Ian Lang, Secretary of State for Scotland, claims has been his ambition since he was Scottish Office minister for education two years ago.

The new council would not be a recasting of the Universities Funding Council's Scottish committee, he said, although it would continue to have a valuable role before the council was in place, and there might be some overlap of membership for the sake of continuity

UFC funding is expected
transferred intact to the Scottish
fice, but thereafter, resources
new Scottish funding council
determined within the Scot
secretary's block grant. Mr. L
said there would be direct Scot
Office negotiations with
Treasury, taking account of the
that Scotland, with 9 per cent of
U.K. population, had 15 per cent
its students, and had a broad-bas
four year honours degree structu

The Scottish universities rece
£300 million annual recurrent fu
ing and almost £120 million for
search from the UFC. The ann
Scottish Education Departme
grant to the centrally funded c
leges is £175 million.

A single council is to be resp
sible for the whole of higher edu
tion in Wales, bringing an end to
controversy over the control of
Polytechnic of Wales.

Launching the chang
Secretary of State for Wales Da
Hunt said: "Working together
can build on the many strength
we already have and raise standa
where weaknesses may exist. I
not believe anyone should harb
fears for the future as a result of
changes proposed".

The new council will chan
money for the University of Wa
the Polytechnic of Wales Cardiff
stitute of higher education. Ba
Normal College, Gwent colleg
higher education, West Glamor
institute of higher education
Welsh College of Music and Dra
and Trinity College, Carmarthe

It will be set up in April 1993
will be an independent public b
with members appointed by
Secretary of State for Wales.

The proposals will allow

hnic of Wales to call itself a
ity. The other higher educa-
leges are likely to be allowed
ge their titles at a later date.

:parate funding councils for
education in Wales is to be
o allocate funds provided by
les Office to the colleges.

:ty-one further education col-
and two sixth-form colleges
tly under local government
l (with an annual expenditure
) million) will become inde-
nt institutions under the
sals, announced in a separate
Paper on further education.
anges will come into effect in
1993.

the subject of titles, and
te strong opposition over
al years to the idea, the
nment conceded that the title
ytechnic had never been wide-
erstood. Although the role of
chnics and their academic
vements were recognised
higher education, they were
y many school leavers and
ts. Polytechnics seeking to
e their name to university will
to seek approval by the Privy
cil.

ew structural arrangements,
White Paper says, will make
institutions eligible for general
rch funding through the new
ng councils, which will operate
gside the existing system of
ng through the research coun-
(*Courtesy* : Times Higher
cation Supplement).

CIES Annual Conference

he annual conference of the
parative and International
cation Society (CIES) will be
at Annapoles, Maryland from
ch 12-15, 1992. The theme,
sis in the Quality of Education" will focus on the debates over policy reform surrounding the improvement of the quality of education.

The quality of education is widely perceived by the public to be in a state of crisis in developing countries, OECD countries, the Soviet Union,the Eastern Europe. Reasons for the perception may differ, and solutions may differ as well. However, there are also some broad commonalities; there are widely applicable education dilemmas and purposes which are at the heart of the debate. Some examples: the degree to which the education system is able to prepare students to meet occupational changes resulting from shifts in science and technology; the political difficulty of identifying and rewarding excellence in teaching; the appropriate role of government and the public sector in financing and providing for skills specific to a vocation; the pedagogical use of teaching in a mother tongue versus another language which may better serve to socialize students into a national culture.

Among others, this raises the following kinds of questions:

To what extent are the problems perceived to be the same across the three categories of countries ?

To what extent do the problems and solutions differ from one category of country to another ? Why do they differ ?

To what extent do the problems and solutions differ within the three categories of countries, between Japan and the U.S. for instance ? Or between the U.S.S.R. and Poland ?

The theme is broad enough to capture the varying interests of the CIES membership and yet sufficiently focussed to provide useful debate.

Further details may be obtained from Mr.Stephen Heyneman,CIES Conference, The World Bank, 1818 H St. NW, H-8047, Washington DC, 20433, USA.

World Congress of Comparative Education

The VIII World Congress of Comparative Education will be held in Prague on July 8-14, 1992.

The Theme : Education, Democracy and Development provides an opportunity to examine from a variety of perspectives recent developments in Eastern Europe and other regions.

The Congress will focus on (1) Theories and Methods in Comparative Education; (2) Historical Approach to Comparative Education; (3) Comparison of National Education Policies, with reference to New Challenges and Perspectives; (4) Comparisons of Pedagogy — Recent Trends; (5) International Issues in Education; (6) New Educational Technologies; (7) Comparisons of Higher Education; and (8) Teacher Education in Comparison.

For further details, contact Prof. Dr. Frantisek Singule, C/o Office of the Dean of Education, Charles University, M D Rettigove, 4, CS-116 29 Prague, 1, Czechoslovakia.

Attention Publishers !

Publishers are welcome to submit their latest publications for review in the *University News*. Two copies are required to be submitted; one is sent out to the reviewer while the other is retained in the office for reference and record. All reviews published in *University News* are signed.

AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and docum on Higher Education. Among the topics prominently represented are Educational Sociology, Educa Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Educ and Country Studies . Developing fields of Adult Education, Continuing Education and Distance Educa and Educational Technology are also well stocked. The library is particularly strong in its collection of rep whether they are on the setting up of different universities or on the state of Higher Education. Files of Ann Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions thr our column 'Additions to the AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regu and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while reg tions made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supp on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open fr 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for wh requisition must be made through your Librarian.

RESEARCH IN PROGRESS

A list of Research Scholars registered for Doctoral Degrees in Indian Universities

SOCIAL SCIENCES

Sociology

1. Jayakumari, S. **Marital instability among modern women : A study among deserted and divorced women.** Kerala. Dr K B Thankamony, Head, Department of Sociology, S N College, Chempazhanthy, Trivandrum.

2. Jayasree, B. **The health status of fisher women in Kerala.** Kerala. Dr Manu Bhasker, Reader, Department of Sociology, University of Kerala, Kariavattom.

3. Sree Ranjini, A. **The family building practices of working and non-working women in Kerala : A comparative study.** Kerala. Dr K Krishna Kumari, Lecturer, Department of Demography, University of Kerala, Kariavattom.

4. Vijaya Kumari, E. **Women in Unorganised sector : A study of quarry of workers in Trivandrum.** Kerala. Dr Indu Kumari M, Lecturer, Department of Sociology, University of Kerala, Kariavattom.

Social Anthropology

1. Jain, Deepchand. **A study of fertility and family planning behaviour among the Kols of M P.** H S Gour. Dr Ramesh Choubey, Reader, Department of Social Anthropology, Dr Hari SinghGour Vishwavidyalaya, Sagar.

2. Roy, Jyotirmoy. **An anthropological approach to study health nutrition and family planning status of primitive Baigas of Baiga-Chak area of Madhya Pradesh.** H S Gour. Prof R S Bali,Reader, Department of Social Anthropology, Dr Han S Gour Vishwavidyalaya, Sagar and R J Singh.

Economics

1. Chauhan, Kavita. **Pashchim Nimar Jile ke laghu udyog arthik sthiti ka vishleshan.** Vikram. Dr G Parikh, Asstt Department of Economics, Vikram University, Ujjain.

2. Chaure, Tapan. **M P mein saghan krishi vikas karyakra ka krishi vikas per prabhav : Ujjain Jile ke vishesh sandarbh** Vikram. Dr V K Parikh, Reader, Department of Economics, Vi University, Ujjain.

3. Mamta. **Developmental role of organised manufac sector through inter-sectoral linkagas in Himachal Pradesh** Dr L R Sharma, Prof, Department of Economics, Himachal Pra University, Shimla.

4. Mishra. Sunil Kumar. **Sagar Jile mein Banda Vikas K ke laghu evam simant krishkon ka arthik adhyayan.** H S Gou M L Tripathi, Reader, Department of Economics, Dr HariS Gour Vishwavidyalaya, Sagar.

5. Singh, Arun Kumar. **Performance appraisal of Uttar Pra State Cement Corporation.** BHU. Dr Rajendra Rai, Depa of Economics, Banaras Hindu University, Varanasi.

Public Administration

1. Aggarwal, Pahlad Rai. **Organisation and working nationalised road passenger transport undertakings : A com tive study of The Haryana Roadways and the Punjab**

jab. Dr S L Kaushik, Department of Public Administration, jab University, Chandigarh.

2. Barzegar, Mohtaram. **Administration of family planning in s Province of Islamic Republic of Iran.** Panjab. Dr S L Goel, partment of Public Administration, Directorate of Correspondce Courses, Panjab University, Chandigarh.

3. Goyal, Tarsem Chand. **Spatial administration of educational titutions in rural areas of Sangrur District of Panjab State.** ijab. Dr (Mrs) Shyama Bhardwaj, Department of Public Adnistration, Panjab University, Chandigarh.

4. Kashyap, Chaman Lal. **Policy and administration of rural elopment in Himachal Pradesh : A critical study of Mandi and imla Districts.** Panjab. Dr (Mrs) Shyama Bhardwaj, Department Public Administration, Panjab University, Chandigarh.

5. Sharma, Ajay Kuamar. **A critical analysis of administrative ganisation for elections in India with special reference to ryana.** Panjab. Dr S L Kaushik, Department of Public Adnistration, Panjab University, Chandigarh.

6. Sharma, Vibha. **Government policy and administration of ild welfare in Haryana.** Panjab. Prof Satya Deva, Department of blic Administration, Panjab University, Chandigarh.

7. Tilak Raj. **Management of Integrated Rural Development ogramme in Haryana.** Panjab. Prof S L Goel, Department of ublic Administration,Directorate of Correspondence Courses, anjab University, Chandigarh.

ducation

1. Badhan, Manohar Singh. **Comparative effects of yogic exerses and video games on the development of accuracy in air rifle hootting.** Panjab. Dr S N Sharma, Department of Physical Educaon, Panjab University, Chandigarh.

2. Jyoti. **The efect of instructional design on academic achievenent of secondary school students in relation to achievement notivation, self concept, level of aspiration.** Panjab. Prof Harish harma, Department of Education, Panjab University, Chandigarh.

3. Kalra, Bindu. **Scientific creativity in relation to intelligence,personality,cognitive styles and selected environmental catalysts.** Panjab. Dr S C Gakhar, D A V College of Education, Abohar.

4. Lal Singh. **Job satisfaction of senior secondary teachers in relation to personality characteristics, anxiety and well-being.** Panjab. Dr (Mrs) Asha Gupta, Lecturer, Department of Education, Panjab University, Chandigarh.

5. Malhotra, Ruchika. **A study of learning outcomes among adult learners in the Union Territory of Chandigarh as related to goal orientation persistence and learning styles.** Panjab. Dr Savita Markanda, Department of Education, Panjab University, Chandigarh.

6. Mollykutty, T M. **Effectiveness of modular approach in teacher education and requisites for implementation.** Kerala.

7. Naginder Kaur. **A comparative study of teaching effectiveness of Navodaya and traditional school teachers in relation to intellective non-intellective and institutional variables.** Panjab. Dr S C Gakhar, D A V College of Education, Abohar.

8. Ouckathi, Prasert. **A study of personality traits achievement - motivation interests-intelligence and academic achievement of athletes and non-athletes of Prince of Songkhla University, Thailand.** Panjab. Prof Harish Sharma, Department of Education, Panjab University, Chandigarh.

9. Pal, Sima. **Integration of value-orientation in secondary teacher training courses and its impact on the corresponding cognito-affective teaching behaviour.** Panjab. Dr Anand Bhushan, Reader, Department of Education, Panjab University, Chandigarh.

10. Pluangnuch, Nittaya. **A comparative study of school climate and satisfaction variables of educational environment and their relationship with students academic achievement in demonstration and non-demonstration schools of Thailand.** Panjab. Prof (Miss) Sudesh Gakhar, Department of Education, Panjab University, Chandigarh.

11. Raj Bala. **Anxiety self-concept and adjustment as related to performance of volley ball players.** Panjab. Dr Nasib Singh Mann, Lecturer, Department of Physical Education, Panjab University, Chandigarh.

12. Saini, Kiran. **A comparative study of drug addict and non addict adolescents of Panjab in relation to intelligence, personality adjustment and socio-demographic variables.** Panjab. Dr S C Gakhar, D A V College of Education, Abohar.

13. Sodhi, Vineet. **Role expectation of physical education teachers in relation to organizational climate and leadership behaviour of principals.** Panjab. Prof (Miss) J Bhullar, Department of Physical Education, Panjab University, Chandigarh.

14. Subash, B. **Effect of disequilibration : Equilibration model of teaching Biology on achievement and cognitive development of higher secondary students.** Kerala.

15. Vohra, Manjinder. **Psychological problems of the adolescents in relation to their ego-identity locus of control and family cohesion.** Panjab. Dr (Mrs) Pushpa Chaudhary, Lecturer, Department of Education, Panjab University, Chandigarh.

Commerce

1. Aeram, Animesh. **Ratlam Jile ke vrihitt evam madhyam udyogon mein shram prabandh, 1980-90.** Vikram. Dr B L Jain, Reader, Department of Commerce, Govt Commerce College, Ratlam.

2. Anijwal, Hiralal. **Ratlam Jile ke audyogik vikas mein rashtriyakrit bankon ka yogdan ; Bank rashtriyakaran se vartman tak.** Vikram. Dr B L Jain, Reader, Department of Commerce, Govt Commerce College, Ratlam.

3. Bavre, Ganesh Prasad. **20 Sutriya Karyakram ke antragat Jhabua Jile ke adivasi kshetron ka arthik va samajik vikas : Ek vishleshnatmak adhyayan.** Vikram. Dr B S Mishra,Reader, Department of Commerce, Govt College, Jhabua.

4. Gupta, Rambabu. **Raigarh Jile mein sehkari vittiya sansthayon kee krishi kriyaon ke prabhav ka mulyankan, 1980 se 1990.** Vikram. Dr Darshan Singh Bothara, Reader, Department of Commerce, Madhav College, Ujjain.

5. Maheshwari, Hiralal. **Shajapur Jile kee krishi vitt vyavastha mein sehkari bankon ka yogdan, 1975 se 1990 tak.** Vikram. Dr R S Patel, Reader, Department of Commerce, Madhav College, Ujjain.

6. Patidar, Bharatlal. **Ujjain Jile mein soyabean kee krishi : Ek arthik vishleshan.** Vikram. Dr F C Arora, Asstt Prof, Department of Commerce, Govt Commerce College, Ratlam.

7. Sharma, Lakshminarayan. **Mandsaur Jile ka janankiya adhyayan : Janganana - 1971 se 1991.** Vikram. Dr G L Jain, Reader, Department of Commerce, Govt College, Neemuch.

5. [illegible] Rajender Kumar. **Mandsaur Jile mein gehun, jawar vipanan ka tulnatmak adhyayan : Chhati satvin panchvarshiya yojana kal.** Vikram. Dr Prahlad Patidar, Reader, Department of Commerce, Govt College, Mandsaur,

Management

1. Soni, Satyanarayan. **Human resources management in M P police organisation : A study into the policies and practices of personnel recruitment training and development, 1980-1990.** Vikram. Dr D S Bothra, Prof, Department of Commerce, 29, Kamla Nehru Marg, Madhav Nagar, Ujjain.

HUMANITIES

Religion

1. Sujata, Rev Labujuwa Siri. **Buddhist attitudes towards kama.** BHU. Prof K N Mishra, Department of Philosophy and Religion, Banaras Hindu University, Varanasi.

Fine Arts

Music

1. Joshi, Swarn. **Sitar in Indian classical music : A study of the changing vadan shailies of the instrument vis-a-vis its structure.** Panjab. Dr (Mrs) Saroj Sharma, H No 603, Sector 33- B, Chandigarh.

2. Manvinder Kaur. **Contribution of Gandharv Maha Vidyalaya in the development of Indian music.** Panjab. Prof Bhupinder Seetal.

3. Sharma, Seema. **Folk music of Duggar : A study of Dogra folk songs with special reference to musicology.** Panjab. Prof (Mrs) Bhupinder Seetal.

Language & Literature

English

1. Bains, Ginny. **The ethical vision of William Faulkner.** Panjab. Prof (Mrs) Nirmal Mukerji, Department of English, Panjab University, Chandigarh.

2. Gopinathan Pillai, C. **Strange voices of dissent from India and Eastern Europe : An inquiry into new forms of political imagination in the works of O V Vijayan and Milan Kundera.** Kerala. Dr V Rajakrishnan, Reader, Institute of English, University of Kerala, Thiruvananthapuram.

3. Pillai, Meena T. **The gothic tradition in post war American novelists.** Kerala. Dr A Jameela Beegum, Reader, Institute of English, University of Kerala, Thiruvananthapuram.

4. Radha Kumari, K. **Love and guilt in the novels of Iris Murdoch.** Kerala. ShriSVenkitachalam Iyer,Reader,Institute of English, University of Kerala, Thiruvananthapuram.

Sanskrit

1. Lakshman Lal, K. **Arthadyotanika on Sakuntala : A study.** Kerala. Dr N P Unni, Prof and Head, Department of Sanskrit, University of Kerala, Kariavattom.

2. Lekh Raj. **Pauranik sahitya mein swarg evam nark kee awadharna.** Panjab. Dr Vikram Kumar, Lecturer, Department of Sanskrit, Panjab University, Chandigarh.

3. Vasanthy Amma, P N. **Jivanmukti-viveka : A study.** Kerala. Dr K Maheswaran Nair, Lecturer, Department of Sanskrit, University of Kerala, Kariavattom.

Punjabi

1. Amritpal Kaur. **Communication devices of Guru Nanak Bani.** Panjab. Dr Darshan Singh, Prof, Department of Guru Nanak Sikh Studies, Panjab University, Chandigarh.

2. Benipal, Parminder Singh. **Guru Nanak Bani da**
Panjab. Dr Darshan Singh, Prof, Department of Guru
Studies, Panjab University, Chandigarh.

3. Deepak Manmohan Singh. **Shiv Kumar dee kavita vich
pratik vidhan da adhyayan ate Dian Chirian, Loona, Main te
de vishesh sandarbh vich.** Panjab. Dr Kesar Singh Kesar,
School of Punjabi Studies, Panjab University, Chandigarh

4. Gurmej Singh. **1960 ton bad de Punjabi novel vich
sabhiachar.** Panjab. Dr Kesar Singh Kesar, Prof, School of
Studies, Panjab University, Chandigarh.

5. Kanwal Jit Kaur. **Economic structure as depicted in
Nanak Bani.** Panjab. Dr Darshan Singh, Prof, Department of
Nanak Sikh Studies, Panjab University, Chandigarh and Dr
Bala Jain, Govt College, Sector 46, Chandigarh.

6. Narinderjit Kaur. **Dalip Kaur Tiwana de naval : Eh
Jiwana da bhashai adhyayan.** Panjab. Dr Jagjit Singh,
School of Punjabi Studies, Panjab University, Chandigarh

7. Ranjit Kaur. **Hir Ranjha kissa Chaker de adhar te
kissa kav vich pesh samajak rishtian da adhyayan.** Panjab
Nahar Singh, Reader, School of Punjabi Studies, Panjab
Chandigarh.

8. Tarsem Kaur. **Bhai Gurdas : Saman, Jiwan te rachna.**
jab. Dr D P Singhal, Department of Guru Ravi Dass Chair,
University, Chandigarh.

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1. Ahirwal, Madan Kumar. **Bilaspur Jile kee boli ka
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2. Chandravadana, G. **Comparative study of the
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Kumaran Asan.** Kerala. Dr Vellayani Arjunan, Jeesha, T C 14/
Thycand, Trivandrum.

3. Dawar, Sanjeev. **Yashpal ke kahani sahitya mein
bodh.** Panjab. Dr Satya Pal Sehgal, Lecturer, Department of
Panjab University, Chandigarh.

4. Luthra, Babita. **Premchand evam Jaishankar Prasad
kahaniyon mein vaiyaktik aur samajik bodh : Tulnatmak
hyayan.** Panjab. ProfM P Bhardwaj, Department of Hindi,
University, Chandigarh.

5. Raghu Nath. **Navgeet : Kathya-vaividhya aur shailpik
rachana.** Panjab. Prof Jai Prakash, Department of Hindi,
University, Chandigarh.

6. Rai, Sanjay Kumar. **Sant Raidas kee kavita mein
sagun vichar.** BHU. Dr Shukdev Singh, Department of
Banaras Hindu University, Varanasi.

7. Rajinder Kumar. **Sanskritik vilambana ke sandarbh
Hindi ke sathottari anchalik upnyason ka adhyayan.** Panjab.
Jai Prakash, Department of Hindi, Panjab University,

8. Sharma, Shyama. **Mohan Rakesh ke sahitya ka
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Reader, Department of Hindi, Panjab University, Chandigarh

9. Suman Rani. **Nai kahani kee rachna-prakriya :
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Priyamvada ke sandarbh mein.** Panjab. Prof V R
Reader, Department of Hindi, Panjab University, Chandigarh

10. Usha Devi. **Dasham granth mein manav mulya.**
Dr Dharm Pal Maini, Department of Hindi, Panjab

arh.

ijay Mohan. **Rangshilp kee drishti se Laxmi Narayan Lal
a sahitya.** Panjab. Dr Virendra Mehndiratta, Reader,
ient of Hindi, Panjab University, Chandigarh.

habab, Bhagwan Dass. **Munawwar Lakhnavi kee adabi
l ka tanqeedi jayiza.** Panjab. Dr Haroon Ayub, Reader,
nent of Urdu, Panjab University, Chandigarh.

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eghunathan Nair, R. **An annotated bibliography of critical
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abral, Brij Mohan. **A geographic analysis of the changes in
haracteristics of population in the Tribal District of Lahul
iti, Himachal Pradesh 1951-81.** Panjab. Dr Sodhi Ram,
, Department of Geography, Directorate of Correspondence
s, Panjab University, Chandigarh.

Harpal Singh. **District planning : A geographic perspective ;
study of Sirsa District, Haryana.** Panjab. Dr (Mrs) Swarnjit
Reader, Department of Geography, Panjab University, Chan-

Vimal, Bindia. **The planned city of Chandigarh :A geographi-
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aphy, Panjab University, Chandigarh.

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Bhatt, Pradhuman Kumar. **Jhalawad Rajya ka itihas, 1838 se
svi tak.** Vikram. Dr S P Upadhyaya, Prof, Department of
y,Govt College, Shajapur.

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yan : Arambh se lekar barahvin shatabadi isvi tak.** H S
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m. Dr Shiv Narayan Yadav, Reader and Head, Department
tory, Govt College, Badvani.

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asheshon ka adhyayan.** H S Gour. Dr R N Agrawal.

Digvijay Singh. **Buddhist centres of Eastern India with
al reference to socio-cultural study.** Vikram. Dr M R Singh,
er, School of Studies in Ancient Indian History, Culture and
aeology, Vikram University, Ujjain.

Dixit, Rajendra Kumar. **Chakrakoot ke Nagvansh ka itihas.**
Gour. Dr S R Dube.

Dube, Nagesh. **Airan kee kala.** H S Gour. Dr V D Jha.

Halwe, Prafull. **Mandla Janpad ka puratatva : Arambh se
terahvin shati tak.** H S Gour. Dr V D Jha.

9. Jain, Rajnish. **Madhya Pradesh ka rajnaitik itihas, 600 isvi se 1200 isvi tak.** H S Gour. Dr R M Agrawal.

10. Jain, Sandhya. **Jain grahstha chakshya chayuryan.** H S Gour. Shri S D Mishra.

11. Kakar, Subash Chander. **The mother and child theme in North Indian sculpture from the Sunga period to circa 1200 A D.** Panjab. Prof S N Chopra, Department of Ancient Indian History, Culture and Archaeology, Panjab University, Chandigarh.

12. Lal Man. **Archaeology of Sirmaur District, Himachal Pradesh.** Panjab. Dr D K Handa, Reader, Department of Ancient Indian History, Culture and Archaeology, Panjab University, Chandigarh.

13. Mishra, Upama. **Sagar Jile kee Shaiv pratimayon ka adhyayan : Arambh se 12vin shati tak.** H S Gour. Shri S D Mishra.

14. Pathan, Kayamuddin. **Aliraipur Riyasat ka itihas 1765 se 1947 isvi.** Vikram. Dr Shiv Narayan Yadav, Reader, Department of History, Govt College, Badvani.

15. Sadasivan, K. **The role of Paliyam Swarupam in the political affairs of the State of Cochin.** Kerala. Dr K K Kusuman, Reader, Department of History, University of Kerala, Kariavattom.

16. Sahu, Anita. **Madanpur Jila Lalitpur ka Puratatva : Arambh se solahvin shatabadi tak.** H S Gour. Dr R N Agrawal.

17. Sharma, Anita. **Bhartiya kala kee katha vrittatmak pravrittiyon ka sameekshatmak adhyayan, arambh se Gupta kal tak.** Vikram. Dr Sushila Pant, Prof and Head, Department of Ancient Indian History, Culture and Archaeology, Vikram University, Ujjain.

18. Sharma, Sulochna. **Pt Ramprasad Bismillah ka krantikari andolan mein yogdan.** Vikram. Dr Madanlal Pawar, Asstt Prof, Department of History, Govt College, Mandsaur.

19. Shrivastava, Prerna. **Tripuri Janpad kee Shaiv pratimayon ka adhyayan : Arambh se 12vin shati tak.** H S Gour. Dr V D Jha.

20. Shrivastava, Rashmi. **Prachin M P mein saur dharam tatha kala ka adhyayan : Arambh se lekar barahvin shatabadi isvi tak.** H S Gour. Dr S K Bajpai.

21. Singh, Rachna. **Una ke mandiron ka kalatmak vaibhav.** Vikram. Dr S S Nigam, Reader, Schoolof Studies inAncientIndian History, Culture and Archaeology, Vikram University, Ujjain.

22. Srivastava, Poonam. **Chandel kalin samaj aur dharma.** BHU. Dr J S Mishra, Reader, Department of History, Banaras Hindu University, Varanasi.

23. Thakur, Balvant Singh. **Dhuvela Sangrahalaya mein sangrahit puravasheshon ka adhyayan.** H S Gour. Dr S K Vajpai.

24. Wahi, Kamal. **Garhwal kalin samaj aur dharma.** BHU. Dr J S Misra, Reader, Department of History, Banaras Hindu University, Varanasi.

THESES OF THE MONTH

A list of Doctoral Theses accepted by Indian Universities

SOCIAL SCIENCES

ary & Information Science

. Barman, Rajani Kanta. **Personnel administration in university libraries in N E Region with special reference to Assam.** Gauhati. Dr Niru Hazarika, Prof, Department of Political Science, Gauhati University, Guwahati.

Psychology

1. Joseph, M L. **Occupational stress : An analytical study.** Kerala. Dr B Dharmangadan, Prof, Department of Psychology, University of Kerala, Kariavattom

2. Mishra, Geeta. **Personality correlates of Machiavellianism.** Gauhati. Dr Man Singh, Reader and Head, Department of Psychology, Gauhati University, Guwahati.

3. Padma Priya, Vinjamuri. **A comparative study of deaf and normal children : Psychological characteristics and academic achievement.** Andhra.

4. Rajeshkunwar. **Poorvi evam Pashchim Uttar Pradesh kee anusuchit evam anya jatiyon ke chhatron mein samayojan vyaktitva prakar evam shaikshik uplabdhi : Ek tulnatmak adhyayan.** Gurukula. Prof O P Mishra, Department of Psychology, Gurukula Kangri Vishwavidyalaya, Hardwar.

5. Raju, S. **Personality characteristics of scheduled caste and scheduled tribe employees in Government service.** Kerala. Dr H Sam Sananda Raj, Reader, Department of Psychology, University of Kerala, Kariavattom.

6. Satsangi, Shakuntla. **Dimensions of giftedness : Focus on personality and background factors.** IIT Delhi. Prof (Mrs) Purnima Mathur, Department of Humanities and Social Sciences, Indian Institute of Technology, New Delhi and Shri S C Upadhyay, Department of Humanities and Social Sciences, Indian Institute of Technology, New Delhi.

Sociology

1. Bharathi, M. **Women and social change in Rural Karnataka : A sociological study in two villages of Bangalore District.** Gulbarga. Dr M S Dhadave, Reader, Department of Sociology, Gulbarga University, Gulbarga.

2. Das, Biswajit. **Communication and power structure : A sociological anaysis of an Orissa Village.** JNU. Prof Yogendra Singh, Centre for the Study of Social Systems, Jawaharlal Nehru University, New Delhi.

3. Kailash. **Dynamics of tribal education and occupational transformation : A study of Bhil Tribe of Jhabua District of Madhya Pradesh.** JNU. Dr K P Dhurandhar, Centre for the Study of Regional Development, Jawaharlal Nehru University, New Delhi.

4. Neena. **Cultural regionalism and Hindi nationalism : An analysis of identity formation among Bhojpuri Speech Community.** JNU. Prof T K Oommen, Centre for the Study of Social Systems, Jawaharlal Nehru University, New Delhi.

5. Niwand, Abdul Fatah. **Afghan refugees in India : The process and the problems of social adjustment in a cross cultural setting.** Rajasthan. Dr (Miss) Indu Mathur, Department of Sociology, University of Rajasthan, Jaipur.

6. Sharma, Nilima. **Nagariya parivesh mein lok sanskriti : Ek samajshastriya adhyayan, Raipur Shahar ke vishesh sandarbh mein.** Ghasidas. Dr S L Srivastava.

7. Singh, Phulena Prasad. **Patterns of protest and mobilization of peasantry in Bihar : A case study of Hazaribagh District in post-independence era.** JNU. Dr J S Gandhi, Centre for the Study of Social Systems, Jawaharlal Nehru University, New Delhi.

Social Anthropology

1. Behara, Bijay Kumar. **Socio-cultural change among the Kondh.** Calcutta.

2. Dasgupta, Samira. **Birjias Chottanagpur : A cultural ecolog cal study.** Calcutta.

Political Science

1. Abdul Aziz, M. **Rise of the Muslims in Kerala politi** Kerala. Dr N K Bhaskaran, Prof and Head, Department of P University of Kerala, Kariavattom.

2. Mishra, Uma. **Mandla Jile mein adivasi kshetra kee gra panchayaton ke Sarpanch kee bhumika evam karya : Vishesh ru se Dindori Tehsil ke sandarbh mein.** Durgavati. Dr T G Dupe 604, Vivekanand Nagar, Yadav Colony, Jabalpur.

3. Pandey, Hemchander. **Rajgarh Jile kee anusoochit jatiyo aur anusoochit janjatiyon ke hit samvardhan mein Jile ke vi hayakon kee bhumika.** Ghasidas. Dr R P Tiwari, Link Roa Bilaspur.

4. Sanjay. **Development of Legislature in Arunachal Prades A study in institutional and political behaviour.** Gauhati. Dr P Reddi, Prof and Head, Department of Political Science, Gauha University, Guwahati.

5. Tiwari, Vandana. **Bharat Shri Lanka sambandh, 1964-8** Ghasidas. Dr H S Dwivedi, Vice Chancellor, Guru Ghasidas Vis wavidyalaya, Bilaspur.

Economics

1. Atibudhi, Hrudananda. **Crop input productivity and agricu tural credit use in selected farms of Puri District, Orissa.** Or Agrl. Dr J P Singh, Reader, Department of Agricultural Econom College of Agriculture, Bhubaneswar.

2. Bhatt, H M. **Impact of I R D P on the rural areas Saurashtra.** Saurashtra. Dr B D Parmar.

3. Bhattacharyya, Manas. **Import dependance of private co sumption in India.** Calcutta.

4. Gardharia, A S. **A study of unemployment with speci reference to higher education in Saurashtra.** Saurashtra. Dr B Pandya.

5. Javad Mir. **An analysis of the impact of price determina of agricultural products on migration of rural population to urba areas in Iran during 1974-86.** Jamia. Dr S A R Bilgrami, Depar ment of Economics, Jamia Millia Islamia, New Delhi.

6. Mairal, Girish. **Madhya Pradesh mein gramin bank yoja ke antragat Central Bank of India ke yogdan ka vishleshnatm adhyayan.** Durgavati. Dr C M Shukla, Mahakoshal Arts and Co merce College, Jabalpur.

7. Mani, Sunil. **The Indian automotive tyre-industry : A stu of its structure and behaviour, 1936-1988.** JNU. Prof Chiranjib Se Centre for Development Studies, Jawaharlal Nehru Universi Trivandrum and Prof K K Subramanian, Centre for Developme Studies, Jawaharlal Nehru University, Trivandrum.

8. Neekhra, Nand Kumar. **Bharatiya Rajkiya Vyapar Ni kee karyavadhi evam uplabdhiyon ka vishlehan.** H S Gour. Pr H C Sainy, Head, Department of Applied Economics and Bus Management, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

9. Radhakrishnan Nair, C. **Productivity trends in the organi manufacturing industries of Kerala.** Kerala. Dr P R Gopinath Nair, Prof and Head, Department of Economics, University Kerala, Kariavattom.

10. Ravi Babu, Karnati. **Supply response of slow growing cr : A case study in Andhra pradesh.** Andhra.

11. Seshagiri Rao, Velugubantla. **Growth diversity and sickness small scale industry in India : The case of Visakhapatnam.** dhra.

12. Sinha, Balram. **Changing profile of India's foreign trade : A ıdy in the changing compsotion and direction of India's foreign .de.** Magadh.

13. Zachariah, George. **Profile of industrial workers in Kerala , comparative study of the socio-economic profile of workers in ıditional and modern industries.** CUST. Dr K K George, Prof, hool of Management Studies, Cochin University of Science and chnology, Kochi.

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1. Dhar, Pannalal. **Preventive detention under Indian Constitu-on.** Calcutta.

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1. Arora, Guljit Kumar. **An analysis of central transfers in India A study of selected states.** JNU. Prof G S Bhalla, Centre for the tudy of Regional Development, Jawaharlal Nehru University, New elhi.

2. Nawajimo, Olewe Bernard. **Air transport administration : omparative perspective of Air India and Nigeria Airways.** Nagpur. r Sajjan Deve, Department of Political Science and Public Ad-ninistration, Nagpur University, Nagpur.

ducation

1. Desai, Sreedarshan Sanjivrao. **A study of Morpho metric neasurements of Nagpur University sportsmen to evolve norms vith reference to certain selected sports.** Nagpur. Dr S B Desh-pande, H V P M S Degree College of Physical Education, Amravati.

2. Patel, Ranjurama Bhupendra. **An investigation into the alues of secondary school teachers of Ahmedabad City.** Patel. Dr J K Dave, Reader, M B Patel College of Education, Sardar Patel University, Vallabh Vidyanagar.

3. Ray, Tapasi. **A comparative study of a few personality char-acteristics of creative minds in arts and science and their parental relationship during childhood.** Calcutta.

4. Sitarama Sarma, Mutnuru. **A study of the administrative behaviour of the principals as percieved by teachers in relation to job satisfaction of teachers and students achievement in junior colleges.** Andhra.

Commerce

1. Chakrabarty, Asit Kumar. **Budgetory policy of the Union Government since the Fifth Five Year Plan.** Calcutta.

2. Joshi, Shekhar Madhav. **A study of entrepreneurship development in small scale industries with special reference to Nasik Industrial Estate.** Nagpur. Dr Prabhakar Deshmukh, G S College of Commerce, Wardha.

3. Manmoharan Nair, K. **Problems and prospects of plantation industries in Kerala.** Kerala. Dr M Sarngadharan, Reader, Department of Commerce, University of Kerala, Triuvananthapuram.

4. Padmanabhan, M. **A study on the implementation of self employment scheme of educated unemployed in Kerala.** Kerala. Dr T Edwin, Executive Director, Socio-Economic Research Council, Kerala.

5. Ray, Hirak. **Predictability of financial ratios to monitor corporate financial health in tea industry.** NBU.

6. Singh, Amrit Pal. **Labour management relations in the Plywood Industry in Assam.** Gauhati. Dr N C Das, Reader, Department of Commerce, Gauhati University, Guwahati.

Home Science

1. Junankar, Madhulika Jayant. **Shahari va gramin mulanna aharcha paddhtiche va samasyanche tulnatmak adhyayan : Janma te adoch varsh.** Nagpur. Mrs Kshana Lim, Head (Retd), Department of Home Science, S B Mahila Mahavidyalaya, Nagpur.

Management

1. Gupta, Manmohan Prasad. **Modelling and analysis of management information system architecture at national level.** IIT Delhi. Dr Sushil, Centre for Management Studies, Indian Institute of Technology, New Delhi.

2. Hemavathi, C S. **Evaluation of the motivational techniques for managerial development in selected public and private enterprises.** Kerala. Dr C N Purushothaman Nair, Prof and Head, Department of Commerce, University of Kerala, Thiruvananthapuram.

3. Humbarawadi, Basavaraj Neelakanth. **Role of rural markets in integrated rural development : A case study of Bijapur District, Northern Karnataka.** Andhra.

4. Rajanna, M. **Prospects and problems of employee ownership and management of industry with special reference to India.** Osmania.

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EDUCATIONAL PSYCHOLOGY

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Mojumdar, Modhumita. The fun & joy of learning. **The Statesman** 12.5.91.

EDUCATIONAL SOCIOLOGY

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Bankeshwar, S S. Resurrecting reservation issue again. **The Assam Tribune** 22.5.91.

Choudhary, Kameshwar. Education : Who cares for it. **The Hindustan TIMES** 23.5.91.

CONTENTIOUS ELITISM (Editorial). **Deccan Herald** 20.5.91.

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Padmini, M A. To encourage originality. **The Hindu** 21.5.91.

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Ram, N. Laboured concerns. **The Economic Times** 7.5.91.

Ramachandran, R. Passport to Ph.Ds. **The Economic Times** 17.5.91.

Seth, Vineeta. Exams are upon us. **The Pioneer** 5.5.91.

Sirohi, Seema. Indian pundit of the right. **The Telegraph** 18.5.91.

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EDUCATIONAL POLICY & PLANNING

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Viswanathan, Prema. A school for scandal. **The Times of India** 5.5.91.

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Mago, P N. Art experience for real education. **Patriot** 26.5.91.

ON THE right course (Editorial). **Deccan Herald** 2.5.91.

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Balasubramanian, D. Science literacy, food for thought. **The Hindu** 8.5.91.

Chinny Krishna, S. Biology dissections, at what cost. **The Hindu** 26.5.91.

Ramachandran, R. Pons' cold dream. **The Economic Times** 5.5.91.

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Pande, Alka. Importance of being an MBA. **The Tribune** 18.5.91.

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Mankekar, Kamla. Progress through literacy. **The Hind Times** 2.5.91.

Saikia, Arati. Educating Dayawati. **Indian Express** 26.5.91

Saraswati Raju. Decline in disparities. **The Hindustan** 4.5.91.

Sharada Prasad, H Y. Literacy empowers the individual **Times of India** 1.5.91.

ELEMENTARY & SECONDARY EDUCATION

Hopper, W A F. School autonomy : Groundwork needed **Hindu** 7.5.91.

Mehta, Niti Paul. Board examination. **Patriot** 3.5.91.

Nagaraja, Bhargavi. No substitute for primary education **Hindu** 26.5.91.

PREDATORY SCHOOLS (Editorial). **The Tribune** 5.5.91

PUNISH NOT the students (Editorial). **The Tribune** 8.5.91

Rajaratnam, P C. Doing away with an elitist education **The Economic Times** 19.5.91.

Sawhny, Sarita. A mini chakravyuha. **The Tribune** 5.5.91

Singh, Inder Pal. The harassed child. **The Tribune** 12.5.91

INSTITUTIONAL PROFILE

Asha, K. Kannada varsity on Hampi rocks. **Deccan** 4.5.91.

Chaudhry, A L. HAU-second home for farmers. **The** 24.5.91.

Sethi, Sanjeev. The concept of one literature : **The Tribune** 5.5.91

GUJARAT AGRICULTURAL UNIVERSITY

Sardar Krushinagar - 385 506

District : Banaskantha

Admission Notice for Undergraduate Programme for 1991-92

The Gujarat Agricultural University imparts resident instructions under semester system for following under-raduate degree programmes at its following constituent Colleges for which applications in prescribed forms are ivited for admission to undergraduate programmes for the Academic year 1991-92

EGREE COURSES	DURATION	CONSTITUENT COLLEGES
. B.Sc. (Agri.)	4 - years divided into 8 semesters	1. B.A. College of Agriculture, Anand. 2. N.M. College of Agriculture, Navsari. 3. College of Agriculture, Junagadh. 4. College of Agriculture, Sardar Krushinagar.
. B.V.Sc. & A.H.	5- years divided into 10 semesters	1. College of Veterinary Science & Animal Husbandry, Anand. 2. College of Veterinary Science & Animal Husbandry, Sardar Krushinagar.
. B.Tech. (Agril. Engineering)	4 -years divided into 8 semesters	1. College of Agricultural Engineering & Technology, Junagadh.
. B.Sc. (Forestry) & B.Sc. (Horticulture)	4 -years divided into 8 Semesters.	1. ASPEE College of Forestry & Horticulture, Navsari.
5. B.Sc. (Home Science) (Only for Girl Candidates)	3-years divided into 6 Semesters for Science stream and 4 years divided into 8 Semesters for General Stream (without science subjects)	1. ASPEE College of Home Science, Sardar Krushinagar.
6. Bachelor of Fisheries Science (B.F.Sc.)	4 -years divided into 8 semesters.	1. College of Fisheries, Veraval
7. B.Tech. (Dairy Technology)	4 -years divided into 8 semesters	1. Sheth M.C. College of Dairy Science, Anand

The medium of instructions and examinations is ENGLISH for all the undergraduate degree courses.

ADMISSION REQUIREMENTS

(A) B.Sc. (Agri.) (B) B.V.Sc., & A.H. (C) Bachelor of Fisheries Science (B.F.Sc.)

(D) B.Sc. (Forestry) and B.Sc. (Horticulture) degree course.

Candidate should have passed Higher Secondary School Certificate Examination (10+2) in Science Stream from any statutory University/Board in Gujarat State or Examinations recognised as equivalent there to by this University with English as compulsory subject with minimum marks in theory in external evaluation in Science subjects (Physics, Chemistry, Biology and Mathematics) as under:-

	THEORY
(a) For Scheduled Tribe/Nomadic Tribe/Denotified Tribe candidates	40%
(b) For Scheduled Caste Candidates	45%
(c) For Farmer's Sons/Daughters	50%
(d) For all other candidates	55%
(e) For Donor Candidates (For B.Sc. (Agri.) & B.Sc. (Horticulture) degree course)	50%
(f) For Fisherman's Sons/Daughters (Only for B.F.Sc. degree course)	50%

(E) B.Tech. (Agril. Engineering) Degree Course:-

Candidate should have passed Higher Secondary School Certificate Examination (10+2) in Science stream from any statutory University/Board in Gujarat State or Examinations recognised as equivalent thereto by this University with English as compulsory subject and with minimum requirements of marks in theory at the external evaluation in Science subjects (Physics, Chemistry and Mathematics) as under:-

	THEORY
(a) For Scheduled Tribe/Nomadic Tribe/Denotified Tribe candidates	40%
(b) For Scheduled Caste Candidates	45%
(c) For Farmer's Sons/Daughters	50%
(d) For all other Candidates	55%

(F) B.Sc. (Home Science) Degree Course
(ONLY FOR GIRL CANDIDATES)

The girls candidate to be admitted for three years degree course should have passed Higher Secondary Sch Certificate Examination in Science stream or in Home Science Vocational stream or Vocational stream Agriculture or Higher Secondary post-basic stream with Physics, Chemistry, Biology and Mathematics subje alongwith English subject for all streams from any statutory Board/University in Gujarat State or Examina recognised as equivalent thereto by the University.

The girls candidate from general stream (Arts and Commerce streams) to be admitted for three years deg course with additional Pre-requisite year should have passed Higher Secondary School Certificate Examina in General (Arts and Commerce) Stream or in Home Science Vocational Stream or Vocational Stream Agriculture or Higher Secondary post-basic stream with English but without Science subjects from any statuto University/Board in Gujarat State or Examination recognised as equivalent thereto by the University.

In addition to above, candidate who have passed Higher Secondary School Certificate Examination wi Vocational stream in Agriculture as well as from Higher Secondary Post-Basic Stream will also be admitted B.Sc. (Agri.), B.Sc. (Forestry) & B.Sc. (Horticulture), B.Sc. (Home Science) degree courses having Engli Mathematics, Physics, Chemistry and Biology subjects. Weightage of five percent marks for Agricultural subje will be given to the students who have passed above Higher Secondary School Certificate Examination wi Agricultural subjects for admission to only to B.Sc. (Agri.), B.Sc. (Hort.), B.Sc.(Forestry) and B.Sc. (Home Science) degree courses.

Weightage of five percent marks for admission to all the above degree courses except B.Tech. (Dair Technology) will also be given to farmer's sons/brothers/sisters/daughters/grand sons/grand daughters subject t the production of certificate from a competent authority for having held land in Gujarat under cultivation by himsel or his/her father or his/her mother or his/her grand father or his/her grand mother or his/her brother.

Weightage of five percent marks for admission to B.Fisheries Science degree course will be given to fishin community/Fish farmers sons/brothers/sisters/daughters/grand sons/grand daughters who are domicile of Gujara subject to the production of certificate from a competent authority for having fishing business and/or Fisherie production by himself or his/her father or his/her mother or his/her grand father or his/her grand mother or his/he brother.

Above benefits of five percent weightage of marks will be given only to any one of the cases mentioned above

(F) B.Tech. (Dairy Technology) Degree Course with Entrance Examination.

Candidate should have passed Higher Secondary School Certificate Examination (10 + 2) in Science Stream from any statutory University/Board in Gujarat State or Examination recognised as equivalent thereto by th University with English as compulsory subject with 55 percent marks or equivalent O.G.P.A. in aggregate o Physics, Chemistry and Mathematics in theory papers at external evaluation only (40 percent fo Scheduled/Nomadic/Denotified Tribe candidates and 45 per cent for Scheduled Caste Candidates).

ENTRANCE EXAMINATION FOR B.TECH. (DAIRY TECHNOLOGY) COURSE ONLY

A competative written Examination for admission to the B.Tech (Dairy Technology) Course will be conducte at Sheth M.C. College of Dairy Science, Anand in June/July - 1991 for admission to B.Tech. (Dairy Technolog degree course.

The subjects for Entrance Examination are Physics, Chemistry, Mathematics, English and General Knowledge The syllabus for Physics, Chemistry and Mathematics subjects shall be of 10 + 2 standard. More details fo Entrance Examination will be available from prospectus. Separate merit list on the result of Entrance Examina tion for candidates of Gujarat state and of Out States shall be prepared for unreserved seats from which fift percent will be allotted to candidates of Gujarat State and fifty percent to candidates from other states in India.

Entrance Examination Fee: The application form for admission to B.Tech. (Dairy Technology) must be accom panied by crossed Indian Postal Order for Rs. 50/- drawn in favour of "**GUJARAT AGRICULTURAL UNIVER SITY FUND ACCOUNT**" towards entrance examination fee.

FELLOWSHIP FOR GIRLS

A fellowship of Rs. 250/- p.m. shall be awarded to FIVE GIRL candidates in each faculty (above courses) wh has secured 55 percent marks in Science Stream on merit. Free Hostel accommodation is provided to all g candidates with exemption from tution fees.

RESERVATION OF SEATS

Following seats are reserved who fulfil required qualification under the regulations:-

(1) Twenty percent for Scheduled Caste and Scheduled Tribe candidates (7% for Scheduled Caste and 13% fo Scheduled Tribe) and 10 percent for Socially and Educationally Backward communities defined under Ba Commission of the total seats at the stage of admission are reserved for all the above courses.

(2) Seats for candidates nominated by the Government of India/Indian Council of Agricultural Research fro those states which do not have facilities shall be reserved as per regulations.

(3) Thirteen donor seats are reserved for B.Sc. (Agri.) degree course at B.A. College of Agriculture, Anand.

Two donor seats are reserved for B. Tech. (Dairy Technology) degree course at Sheth M.C. College of Dairy nce, Anand.

One or 5% seats of the total seat reserved for B.Sc. (Horticulture) degree course at ASPEE College of Forestry Horticulture, Navsari.

W TO APPLY :- Application form alongwith prospectus for all degree courses can be had from the Principals he concerned Colleges on payment of Rs. 20/- (In person) and Rs.22/- (By post) OR from the Registrar ademic), Gujarat Agricultural University, Sardar Krushinagar in the form of crossed Indian Postal Order wn in favour of **"GUJARAT AGRICULTURAL UNIVERSITY FUND ACCOUNT"** during the working days n 11.00 a.m. to 5.00 p.m. Prospectus will also available from University camp office, Govt. Bunglow No. 5, hibaug, Ahmedabad in person and not by post.

Application form duly filled in and completed in all respects should reach to the REGISTRAR (ACADEMIC), JARAT AGRICULTURAL UNIVERSITY, SARDAR KRUSHINAGAR - 385 506, DISTRICT : BANAS-NTHA within Fifteen days from the date of declaration of the results of HIGHER SECONDARY SCHOOL RTIFICATE EXAMINATION in Gujarat State. However the last date is **1st July, 1991.**

ncomplete applications or those not accompanied with required documents and those received after the due e will not be considered on any ground and no correspondence on such cases will be entered into.

TE

More details of admission requirements are given in Prospectus.

Separate application forms should be filled in for each degree course in which admission is to be sought.

The University has no responsibility for non receipt or late receipt of application form for any reasons including loss/delay in postal transit. So it is advised to send form by RP/AD.

. GAU/Exam/UGE/ADMISSION/VII/7226/91 **R.J.Patel**

te: 14.5.1991 **REGISTRAR (Academic)**

Post Graduate Institute of Medical Education & Research, Chandigarh

ADMISSION NOTICE NO. 19/91 (Acad)

LAST DATE FOR THE RECEIPT OF APPLICATION IS 8th July, 1991

Applications on the prescribed form, are invited for the Ph.D. Programme and postgraduate courses mentioned ow for the academic session starting from 1st July, 1991:-

'H.D. PROGRAMME :

cancies exists in the following departments :-

Anaesthesia, Biochemistry, Biophysics, Cardiology, Dermatology, Experimental Medicine, Gastroenterology, Haematology, Immunopathology, Medicine, Medical Microbiology, Paediatrics, Pharmacology, Psychiatry (including Clinical Psychology).

M.Sc. BIOCHEMISTRY : 6 Seats – Two reserved for candidates belonging to Sch. Castes/Tribes.

. M.Sc. PHARMACOLOGY : 3 Seats – One reserved for candidates belonging to Sch. Castes/Tribes.

B. :- Those appearing at the qualifying examination may also apply. However, the candidates will have to produce the result of the qualifying examination from the University concerned atleast a day before the selection test.

ENERAL INFORMATION

Application form and detailed information are available from the office of the undersigned either personally on payment of Rs. 20/- at the counter from 10.30 AM to 11.30 AM on all working days and from 2.30 PM to 3.30 PM on all working days except Saturdays or by post for which the request must be accompanied with a self addressed envelope size (23x10 cms) bearing postage stamps of Rs. 4.50 and crossed postal order for Rs. 20/- drawn in favour of the Director.

Wherever MBBS/BDS/MD/MS is an eligibility qualification for admission, candidates other than those belonging to Sch. Castes/Tribes having more than one failure during MBBS/BDS course are not eligible. Sch. Castes/Tribes candidates with upto two failures in their MBBS/BDS career will however be eligible to apply.

Those applying for reserved seats must append, with their applications, a certificate from the District Magistrate concerned in support of their claim. No other certificate will be entertained.

Application must be accompanied with non refundable fee of Rs. 60/- in the form of postal order drawn in favour of the Director for each of the postgraduate course and Ph.D. Programme mentioned above.

CLASSIFIED ADVERTISEMENTS

BANASTHALI VIDYAPITH

(Deemed to be University)

FACULTY OF SCIENCE

		Professor	Reader	Lecturer	Tech. Asstt.
Maths & Statistics	:	1	x	Maths-2 Statistics-1	x
Botany & Zoology	:	x	Zoology-1 Botany-1	Zoology-1 Botany - 1	x
Computer Science	:	x	1	3	2
Electronics	:	x	x	1	x
Physics	:	x	x	1	x

STAFF FOR CALT PROJECT : Temporary upto 28.2.95

Programmer 1	Technical Asstt. 1	Research Fellowships 2 Stipend 2000/- p.m. fixed

FACULTY OF EDUCATION

Education	:	x	3	1	x

FACULTY OF HOME SCIENCE

Child Development	:	1	1	1 Temp.
Foods & Nutrition	:	1	1	1 Temp.
Clothing & Textile	:	1	1	1 + 1 Temp.

Details of qualifications, pay-scale, other benefits & terms and conditions will be supplied with the application form.

Last date of submission of application : 5 weeks from the date of advertisement.

Application froms can be obtained by sending self-addressed envelope of 16 x 23 cm size with postal order of Rs. 5/- (Rs. 1/- for SC/ST) in favour of Secretary, Banasthali Vidyapith, Rajasthan 304022. Rs.10/- postal order if the form is required by Registered Post. For Professor's post Bio-data on plain paper may be sent to the Secretary in confidence. Adv. No.2/91.

MALAVIYA REGIONAL ENGINEERING COLLEGE

JAIPUR

(2/Estt/91)

Applications on the prescribed forms are invited for the following posts by 16.7.1991.

Posts in AICTE Scales:

1. Professors in
   - (a) Environmental Engineering in Civil Engineering Department. — *1 No.
   - (b) Electrical Engineering in Power System - 1 No.
2. Readers in
   - (a) Chemical Engineering - 2 No.
   - (b) Architecture - 4 No.
3. Lecturers in
   - (a) Structural Engineering - 1 No. (Reserved for SC/ST).
   - (b) Chemical Engineering - 4 No. (one post reserved for SC/ST)
   - (c) Humanities (English) - 1 No.

Full particulars about the pay scales, qualifications, number of posts and their nature, application forms etc. can be had on payment of Rs. 15/- through DD/IPO (Rs. 7.50 for SC/ST) in favour of the undersigned along with a self-addressed envelope of 24 x 10 Cms, stamped with Rs. 3/- or on cash payment at our office during working days between 10.00 A.M. to 1.30 P.M. Separate application is required for each post.

REGISTRAR

* This post is funded by the Ministry of Urban Development, Government of India and is meant for M.E. (Environmental En-gineering). This is available at present upto 31.3.92 but it is expected to continue.

National Institute of Educational Planning and Administration

17-B, sri Aurobindo Marg
New Delhi - 110 016

Project Post — an Evaluative Study Of Rural Talent Search

SCHOLARSHIP SCHEME

PROJECT ASSOCIATE FELLOW (One post for period of One year) At a consolidated salary between Rs. 2800-310 p.m. inclusive of HRA of Rs.450/- p.m. to be regulated as per rules.

(a) Qualifications:

Essential

A doctoral degree or equivalent published work with first or high second class Master's degree in Education, Social Sciences, Sciences or disciplines allied to Educational Planning and Administration or an equivalent degree of a foreign University.

Desirable

Preference will be given to candidates with experience of field work and knowledge of basic quantitative techniques.

Age : Below 35 years

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Central Institute of English and Foreign Languages
HYDERABAD - 500 007
DEPARTMENT OF CORRESPONDENCE COURSES
ADVERTISEMENT NO. VII/91

POST-GRADUATE DIPLOMA COURSE IN THE TEACHING OF ENGLISH (THROUGH CORRESPONDENCE)

Applications are invited for admission to the one year Correspondence Course beginning in December 1991, leading to the CIEFL Post-graduate Diploma in the Teaching of English.

Eligibility

1. A PGCTE from CIEFL or successful completion of Semester I of the residential PGDTE of CIEFL.

AND

2. a. An M.A. in English (Preference will be given to teachers of English);

OR

b. A Master's degree with at least a second class in an allied subject (Linguistics, Education, Mass Communication or Psychology) with 5 years' experience of teaching English;

OR

c. An M.A. with at least a second class and 5 years' experience of teaching 'Methods of Teaching English' at M.Ed./B.Ed. level.

The Diploma awarded by this Institute is a desirable qualification for recruitment of teachers of English in Universities and colleges. For the prospectus and the application form please write to the Head, Department of Correspondence Courses, CIEFL, Hyderabad - 500 007, enclosing a crossed Demand Draft for Rs. 10/- in favour of the Registrar, CIEFL.

Last date for receipt of filled-in applications:
1. Without late fee ....**1 August 1991**
2. With a late fee of Rs. 20/-. ..**2 September 1991**

Birla Institute of Technology and Science
PILANI (RAJASTHAN) 333 031
Faculty Recruitment Advertisement No. FR/1/91

Applications are invited for faculty positions at various levels in Chemical, Civil, Electrical & Electronics, Microelectronics, and Mechanical Engineering; Computer Science, Instrumentation, Pharmacy, Management; Biosciences, Chemistry, Economics, Mathematics, Physics, Science & Technology Development, Museum Studies, Engineering Technology, Information Systems; English, and Humanities. Positions (full-time/part-time) are also available for the Institute's off-campus operations in Bombay, Calcutta, Delhi, Hyderabad. Madras etc. Candidates must possess normally a Ph.D. In case of professional disciplines Master's or Bachelor's degree holders will also be considered.

Young persons who have done outstanding work and who are capable of giving leadership in modern areas in Chemical, Electrical & Electronics and Mechanical Engineering; Computer Science, Management, and Pharmacy may be considered for professorship/assistant professorship irrespective of their age. Persons appointed in Mechanical Engineering may also be considered for the post of Chief, Workshop Unit.

A free booklet "Introducing BITS to Prospective Faculty" giving details can be obtained by sending a pre-stamped (Rs. 6.00) self-addressed envelope (30x25 cm) marked FR/1/91.

There is no last date for receipt of applications. This advertisement will be valid till June 1992. Applications received will be reviewed periodically and offers made accordingly. First review of applications will be done by **June 30, 1991.**

REGISTRAR

Vallabhbhai Patel Chest Institute

UNIVERSITY OF DELHI, DELHI-110007

Applications are invited for the following posts:

Professor of Biochemistry (Post permanent in the scale of Rs.4500-150-5700-200-7300).

Qualifications: A scholar of eminence. Independent published work of high standard and experience of teaching postgraduate classes and of guiding research for a considerable period desirable.

Special additional qualifications: Medical/Non-medical graduate with postgraduate qualifications in Biochemistry such as M.D./M.Sc./Ph.D./D.Sc./M.R.C.P./U.S. Speciality Board with teaching/research experience as Associate Professor/Reader for 5 years in a medical college or a postgraduate medical/ allied Institute.

Professor of Pathology: (Post permanent in the scale of Rs. 4500-150-5700-200-7300).

Qualifications: A scholar of eminence. Independent published work of high standard and experience of teaching postgraduate classes and guiding research for a considerable period desirable.

Special additional qualifications: Medical graduate with postgraduate qualifications in pathology such as M.D./ M.Sc./Ph.D./D.Sc./M.R.C.P./U.S. Speciality Board with teaching/research experience as Associate Professor/Reader for 5 years in a medical college or a postgraduate medical/ allied Institute.

D.A., C.C.A., H.R.A., etc., admissible according to rules. Non-practising allowance admissible to medically qualified persons.

Applications in the prescribed form which can be had from the Institute either personally or by sending a self-addressed envelope of 23x10cm. size with postage stamps worth Rs.8/- to cover postage should reach the Director of the Institute by **15th July, 1991**. Candidates called for interview from outstation will be given financial assistance in the shape of a single second class rail fare to and fro by the shortest route.

NOTE: 1. It will be open to the Institute to consider the names of suitable candidates who may not have applied in respect of above posts. 2. Relaxation of any of the qualifications may be made in exceptional cases on the recommendations of the Selection Committee. 3. Persons already employed should send their applications through proper channel. 4. Canvassing in any form by or on behalf of the candidate will disqualify him/her. 5. The Institute reserves the right not to fill up the vacancy advertised if the circumstances so warrant.

Satish Chandra
ADMINISTRATIVE OFFICER

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University News

MONDAY, JUNE 24, 1991 Rs. 2.50

9 JUL 1991
C.F.T.R.I. MYSORE

Teacher Training in Higher Education

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Role and Strategies of Agricultural Universities

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Systems Approach to Design of An Instructional System

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University Education in the Next Century

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TWAS Research Grants

●

Advanced Course in Agrochemicals

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Admission Notice for 1991/92 Sessions

INDIRA GANDHI NATIONAL OPEN UNIVERSITY INVITES APPLICATIONS TO THE FOLLOWING PROGRAMMES

S.No.	Name of the Programme	Eligibility	Duration in years	Medium of instruction
1.	**Bachelor of Arts**	10 + 2 or its equivalent qualification	3	English & Hindi
2.	**Bachelor of Commerce**	10 + 2 or its equivalent qualification	3	English & Hindi
3.	**Bachelor of Science**	10 + 2 with Science subjects or its equivalent qualification	3	English & Hindi
4.	**Bachelor of Library & Information Science**	Bachelor's degree with 2 years experience in a recognised Library	1	English
5.	**Diploma in Distance Education**	Master's degree in any subject or a Professional degree	1	English
6.	**Diploma in Rural Development**	Bachelor's degree holder or non-graduate with 5 years of experience as an Extension Officer in rural development or as a rural development functionary of equal rank	1	English & Hindi
7.	**Diploma in Higher Education**	Teachers in Institutions of Higher Learning or Postgraduate degree in any subject / Professional degree holders with not less than 55% marks.	1	English
8.	**Certificate Course in Food & Nutrition**	No formal qualification	6 months	English, Hindi, Assamese, Gujarathi, Tamil & Malayalam

Note

1. B.A., B.Com. and B.Sc. programmes commence in November, 1991. All other programmes commence from January, 1992.
2. Minimum age required for Certificate course in Food & Nutrition students as on 1.1.1992 is 18 years.
3. A student is allowed to take admission only in one programme at a time.
4. While asking for the application form please indicate whether you want the admission guide in Hindi or English.
5. If you have not received the letter of offer of admission by 30th September, 1991 please contact the concerned Regional Centre.

The application form and Admission Guide for Applicants can be had fromany one of the following **Regional Directors** or from **Registrar (Admissions), Indira Gandhi National Open University, Maiden Garhi, New Delhi 110 068** by paying Rs. 20/- (Rupees twenty only) either in cash or by way of IPO or Demand Draft drawn in favour of IGNOU and payable at the city of the concerned Regional Centre or New Delhi as the case may be.

Application forms are also available at 170 Study Centres of the University all over the country. The respective Regional Director will publish the addresses of Study Centres in local newspapers. Last date to get Application Forms by post is 2.8.1991.

Addresses of Indira Gandhi National Open University Regional Centres

1 Cess Building, Nizamia Observatory Compound, Begumpet, **Hyderabad - 500 016** Ph. 213551
2. 170 - A Patliputra Colony, **Patna - 800 013**
3 Vishwa Yuvak Kendra, Teen Murti Marg,Chanakyapuri, **New Delhi - 110 021** Ph. 3011963
4 268 - C Pitru Ashish, Near Avani Flats, Ishwar Bhawan Road, Navrangpura, **Ahmedabad - 380 009** Ph: 445843
5. Old Govt. College Campus, **Karnal -132 001** (Haryana)
6. Govt. Girls College, Lakkar Bazar, **Shimla - 171 001** Ph : 77806
7 Directorate of Collegiate Education Premises, Seshadri Road, **Bangalore - 560 001** Ph. 211771
8. Cochin University of Science & Tech. Campus, **Cochin - 682 022** Ph: 856513
9. E-2/25 Arera Colony, Near Bus Stop No. 7, **Bhopal - 462 016** Ph. 564576.
10. C/o Symbiosis International Cultural Centre, Senapati Bapat Road, **Pune - 411004.**
11. 'Dunoon' Kenches Trace, **Shillong -793 013** Ph : 22919
12. A-65 Sahid Nagar, **Bhubaneshwar - 751 007** Ph : 54160
13. C-113 Shivaji Marg, Tilak Nagar, **Jaipur - 302 004**
14. 133 Chamiers Road, Nandnam, **Madras - 600 035** Ph : 454581
15 B-41 Sector A, Mandir Marg, Mahanagar,**Lucknow - 226 006** Ph:78036
16 Bikash Bhawan, Bidhan Nagar, 4th Floor, North Block, Salt Late, **Culcutta - 700091** Ph : 347576

Last date to receive filled-in application at the respective Regional Centre — 16.8.91

REGISTRAR (Admissions

NIVERSITY
NEWS

XXIX JUNE 24
1991
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NDER SINGH

Ramamurti Committee's Recommendations

Teacher Training in Higher Education

J.N. Kapur*

The Recommendation

On pages 225-226, the Committee in its report entitled 'Towards an enlightened and humane society' has stated as follows :

"Teacher training in the university system is rather weak. All along very rightly emphasis has been laid on building up professional cadres of teachers from down at the level of primary school teachers. However teachers who are recruited in the university and college system are not given adequate training as of now. No doubt in pursuance of NPE 1986/POA, 48 Academic Staff Colleges have been established. Asked about the adequacy of training for teachers of colleges, chairman UGC, in the course of interaction with the Committee conceded that at present only orientation is given for periods of six to eight weeks and that this is inadequate. It is therefore recommended that to enhance the quality of the teaching in the university system, preinduction training for a period of one year after recruitment should be organised on a decentralised basis by the respective universities".

The implications of this recommendation are serious enough to deserve a national debate.

Some Remarks on this Recommendation

(i) It appears that the Committee wants the present Academic Staff Colleges to be replaced by colleges which will provide one-year training to freshly-recruited college and university teachers and these teachers will receive their regular salaries during the period of this training.

(ii) The Committee has not made any statement about the nature of this training. College and university teachers are also supposed to do research. Will this one year training include a course in research methodology ?

(iii) The Committee has arrived at the conclusion about the inadequacy of the present training on the basis of UGC's chairman's view, rather than on the basis of opinions of teachers trained in these colleges or on the basis of an objective assessment of the work done by them.

(iv) The term 'adequate' is very ill-defined. Some persons consider even one-year pre-service training as inadequate, unless it is supplemented by frequent short-term courses of inservice training.

(v) There is no indication whether there will be examinations during the course of this training and whether those who do not pass the examinations will not be allowed to work as teachers.

(vi) In the case of school teachers, teachers are not financially supported during their pre-service training and they have to pass strict university examinations and there is no guarantee that those who pass these examinations will be absorbed. In the case of college teachers, it is recommended that each teacher be supported to the extent of Rs. 50,000 or more. It is also possible that he may be subjected to less strict examinations and his absorption in the system is guaranteed. Why is this distinction being made ? Is it not possible that school teachers will begin to ask for similar facilities. They can ask at least for reimbursement of salaries during the training period.

**Mathematical Sciences Trust Society,*
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(vii) There are 300,000 teachers in colleges and universities. About 10,000 new teachers may be recruited every year to replace retiring teachers. The cost of training a teacher full time for one year may be more than Rs. 100,000. The total cost of implementing this recommendation will be 100 crores per year. In addition, non-recurring costs will be involved. Even after spending the amount, all the present teachers will remain without training.

(viii) In view of the exponential growth of knowledge of pedagogic techniques and of the individual disciplines themselves, teachers require refresher courses every five years or so. It is to be debated whether the funds earmarked for training a teacher should be spent in one one-year programme or should be spent in a number of short-term programmes spread over his teaching career.

(ix) It is also to be debated whether the pre-service training should be the responsibility of the individual or of the UGC and whether UGC should not spend all its resources on only inservice training of teachers.

(x) It is also to be discussed whether professional education is better given after the teacher has had some teaching experiences and when he is in a position to appreciate the principles of teaching rather than before he has done any teaching and he does not know what is being talked about.

(xi) It is also to be discussed whether teachers should not spend six weeks of their summer vacations either in doing research or in attending professional development course. In this connection, it may be useful to remember the practice in a developed country like the USA where a university teacher gets his salary for 9 months in a year and he can earn his three months salary either by doing research in an officially sponsored research project or by attending courses for professional development.

(xii) College and university teachers are mature persons an they can acquire knowledge about linkages between environment, society and education, about principles of psychology and philosophy or education, about Indian educational system etc. on their own, provided adequate textbooks, video-cassettes etc. are made available to them. Similarly they can update their knowledge of their disciplines through correspondence courses. It is therefore possible that the pre-service education of college teachers be provided through open university courses, which freshly recruited teachers may at their own pace. However they may not be co firmed unless they complete the number of cours equivalent to one-year training programme.

(xiii) All proposals for college teachers training inclu ing the present one, should be critically examine for their cost-benefit analysis.

Training of College and University Teachers in other Countries

The problem of pre-service and inservice training f college and university teachers concerns all countries the world. Different countries have found differe solutions. We examine below some of these solutions

(a) *Australia*

In the late sixties, there was a powerful student move ment which asked for better education and better teach ing. Since promotions in universities were main determined by research, teachers were concentratin on research and neglecting teaching. Sometimes ther were teachers who wanted to improve their teaching but they did not know how to do so. As such after discussion between students leaders and government, was decided to start Higher Education Units in a universities. When in 1973, I visited eleven Australia universities at the invitation of the Australian Vice Chancellors Committee, I visited Higher Educatio Units in all these universities and discussed their ac tivities with the Directors. The main functions of thes units are :

(i) to organise seminars and symposia in settin papers, evaluation and teaching for teachers

(ii) to organise seminars and symposia in othe problems in higher education

(iii) to do research in psychology of learning by adu students

(iv) to develop new audio-visual aids for teachers

(v) to help those teachers who seek the help in impro ing their teaching.

There is no pre-service training and the inservic training is available whenever needed on a decentralise basis, even on an individual basis.

(b) *Germany*

Every university teacher has to be a Ph.D., but he ha to pass another test before he can be appointed as university teacher, where he has to give evidence further research as well as his capacity to teach. Th onus of learning the teaching methods is on the pro chers.

A and Canada

e almost every Ph.D. student is also a graduate nt and as such he has to explain the difficulties rrect the assignments of undergraduate students. or three years, he comes into contact with these ts and develops some teaching abilities. Before ppointed, he has to give a seminar for faculty ers and students and both students and faculty ers have a voice in deciding whether he should be ted. He has thus an important motivation for ping his teaching abilities.

er a teacher is appointed, senior teachers assume sponsibility of helping him in improving his teach- hey sometimes sit in his classes and give him tips proving his presentation.

wever there are no formal programmes for train- teachers. In the course of his graduate work, student has to give some seminars in which he is some questions by his fellow research workers eachers. Here also he develops his lecturing es.

er Efforts in India

sixties and seventies, some orientation program- or college teachers were organised by individual rsities with financial support from the UGC. ever these were not part of any coordinated effort e part of the UGC.

early seventies, the UGC decided to launch a lty Improvement Programme for improving under- uate teaching in colleges. In the UGC Advisory mittee for this purpose, I proposed a programme lar to orientation and refresher courses of demic Staff Colleges. In addition, I wanted greater pth training in the undergraduate courses which the hers were teaching and in principles of teaching. ever I was over ruled by other members of the mittee who thought that university professors were competent to give courses on undergraduate sub- and the best method of faculty improvement was ain college teachers for the Ph. D. degree. A large ber of teachers got Ph.D. degrees and improved personal qualifications but it did not improve un- graduate teaching, since either the teachers left col- s to join postgraduate departments or became trated because they had no opportunity to teach r fields of specialisation in undergraduate colleges.

n most IITs and agricultural universities, the erican method of using graduate assistants has been d.

C.F.T.R.I. MYSORE

The next major attempt was made after 1986 when 48 Academic Staff Colleges were established. These have provided short-term training programme for a large number of teachers. The scheme is now being possibly re-examined.

The Alternative Proposals

(a) A detailed curriculum for a one-year pre-service programme for training college teachers should be prepared with great care and some universities may be allowed to start this course. Every body who aspires to be a college teacher should pass this course either before joining the teaching profession, preferably at his own cost, or within two or three years of joining the teaching profession, through correspondence courses run by IGNOU or other open universities. However a teacher should not be confirmed before he has satisfactorily completed this course.

(b) After that every five years, a teacher should attend regular refresher courses at different levels for six weeks each. Earlier courses may consist more of teaching by experts and later courses may consist of group discussions and seminars by teachers themselves.

(c) The programme should be comprehensive enough to cover all teachers.

(d) The programme for the one-year course should be drawn up after taking into account B.Ed. /M.Ed. courses, special needs of college teachers, curricula of Academic Staff Colleges and the needs of pedagogic techniques special to various disciplines.

(e) The Open Universities may run courses at undergraduate and postgraduate levels in individual disciplines. These courses may be designed specially for teachers. These may not contain the matter usually familiar to the teachers, but may contain material for giving insight into the subject, history of the subject, solutions of problems, special teaching aids, computers programmes etc. i.e. all materials which are likely to improve the efficiency of a teacher. Every teacher may choose the course he is teaching now or he may like to teach later.

(f) Training programmes for indepth training in advanced topics may be run for those teachers who teach M.Sc. classes and for research scholars.

(g) Every training programme should have an evaluation component, since mere attendance at a course is not enough. The evaluation should not be in

(Contd. on page 7)

A critique on Judicial Review of Examination Rules

N.L. Mitra*

An introductory note

With the spreading of higher education number of friction areas are bound to increase requiring special and specialised attention of the dispute settlement machineries. Many of the universities are now engrossed with multiplicity of litigations and the problem of resource depletion in the litigational process. Added with this widening conflicting areas is the uninstitutionalised and ad-hoc growth of academic bureaucracy for whom neither is there any systematic pre or post-service training facilities available, nor is there any facility for exposure available to them to the needs of rule of law, specially administrative laws and practice. As a result, procedural lapses, administrative inability, managerial incompetence, bureaucratic adamency and inelasticity of administrative laws in the universities — all these account for growing litigational phenomenon in our higher education. One of the increasing fields of litigation concerning students' interest relates to examination rules, law and order and conduct of the public examination at the height of our public education system. The issue can be discussed from two different angles, one from the viewpoint of law and order in the shorter perspective and the other from the normative policy issue of evaluating the 'evaluation system' in our universities. In this article we will take a very short perspective area of reviewing our judicial understanding of the administrative laws relating to public examinations conducted by our boards and universities.

Communication of rules to the examinees

Universities generally communicate the rules through printing some of the rules on the back side of the Admit Card, front page of the Answer Script and notification in the University Notice-Board. The Gwalior Bench of the Madhya Pradesh High Court in its division bench made a very pungent remark on the failure to adequately publicise the 'adhiniyam' amongst the examinees. The Court observed "It is very unfortunate that we have to record the plain and bitter truth that Board has done little to educate or apprise candidates of their rights mentioned in the Handbook. In our view, the Handbook not only binds the Board, but it confers on examinees valuable rights on one hand and on the other hand, subjects them to the obliga which they are to perform in taking examination have been shown the usual format of the answer bo supplied by the Board to candidates and we are ta aback by the Board's ignorance of the duties which Board requires the Invigilators, or the Centre Supe tendents to perform under the Handbook. There guidance in that regard to be read on the cover-lea the answer book though some other matters are pro and candidates have to depend on the whim, capric mercy in any particular case, of the Invigilators or Centre Superintendents as regards their right obligations".[1] For easy understanding let me give a b account of the fact of the case. The petitioner w copying was caught red-handed and has been cha for adopting unfair means. He was not given a sepa answer book though the Handbook prescribing detailed rules available with the Centre-in-ch prescribed that in that event a new answer book w be given. The contents of the Handbook were printed in the cover-leaf of the answer book. T were notified on the notice board of the examin centres. Nothing was mentioned about the Admit C The court held the provision of providing an answer book if the candidate was found copying, w 'object to punish the sin and not the sinner'. The of the candidate not demanding the second answer just before fifty minutes of the close of the examin was held an inadequate justification. The decis the Result Committee disqualifying the petitioner held to be unjustified.

Subjects of examination rules

The merit of the above decision is not beyond question. But the observation of the court on non-munication of the 'adhiniyam' was quite relevant. notification on the notice-board was held to b enough communication. Communication throug cover leaf of the answer book was held to be necessary. The question may arise as to the conte the rules and possibility of complete communic through answer book cover leaf. Examination *inter alia*, include :

(a) rights and duties of the examinees[2];

(b) liabilities of the examinees;

(c) various agencies for overseeing the exam tion being properly held , like, invigila

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centre-Superintendents, Result Committees, R.A. Committees, etc. and their duties;

clear definitions of norms like, 'adoption of unfair means';

detailed procedures about actions to be taken in the reported against cases.

; difficult to suggest that all rules are to be printed cover page of the answer book. But it is always to print all rules conferring rights to the ex- es as well as the obligations.

e of the functions of the Committee g with malpractices

different universities there are different practices. ne universities the Result Committee itself deals he malpractices cases. In some universities a kind nding Committee is appointed to deal with such In some other cases, the Executive Committee nts a 'Reported Against Committee', shortly d as R.A. Committee. Whatever is the case, the ination Rules have to specify the name, terms of nce, procedure to be adopted by the Committee aling with the R.A. cases. It has been decided in ase of *Board of High School and Intermediate Ex- ation, U.P. v. Kumari Chitra Shrivastava*[3] as early 1970 that proceedings against a student on the d of misconduct or malpractice at an examination, uasi judicial' in nature. Any administrative action i judicial' in nature has to conform to the principle *udi alterm partem*' which embodies the code of al justice. In such a proceeding 'the principle of al justice must be observed', held in Chitra stava's case.[4] Lord Salborne has underlined the nt of 'natural justice' in the following words :

> "No doubt in the absence of special provisions as to how the person who is to decide is to proceed, the law will imply no more than that the substantial requirements of justice shall not be violated. He is not a judge in the proper sense of the word; but he must give the parties an opportunity of being heard and stating their case and their view. He must give notice that he will proceed with the matter and he must act honestly and impartially and not under the direction of some other person or persons to whom the authority is not given by law. There must be no malversation of any kind. There would be no decision within the meaning of the statute if there were anything of that sort done contrary to the essence of justice".

he principle of natural justice, therefore, clearly includes, (a) not judging in own cause, (b) serving notice to the accused, and (c) right of hearing.

Indian judiciary is presently very confused about the appropriate nature of this natural justice applyable in case of malpractices. In fact the best appreciation on the problem can be found in a very old case widely known as *Dipa Pal's* case[6]. In that case Justice H .K. Bose drew a distinction between (a) cases where the misconduct was discovered in the Examination Hall itself by the invigilators, and (b) cases where it was detected in the checking of answer scripts submitted. To Justice Bose, natural justice need would be different in the above cases. In the words of Justice Bose:

> "In cases where breaches of discipline are detected by the Investigators or other officers present in the examination hall and candidates concerned are expelled from the hall or otherwise dealt with, question of any enquiry on investigation upon notice to the candidates may not arise. But where no case of breach of discipline is actually detected but subsequently upon examination of the answer papers the examiners come to entertain suspicion about adoption of unfair means by particular candidate or candidates and the Examination Board has to consider such cases and come to a determination as to the nature of the offence committed and has to apportion the penalty which can properly be inflicted upon the delinquents, it is only fit and proper that the party arrainged should have an opportunity to defend himself and to offer an explanation, if any."

The rules of natural justice must vary with varying circumstances and the question whether the person concerned had a reasonable opportunity must depend upon the facts of each particular case[7]. It is for that reason where misbehaviour of the student is detected in the examination hall, the M.P. High Court relying on the decision in *Dipa Pal's* case, held opportunity of show cause and other requirements of natural justice were not necessary[8].

The general principle is that unless there is some gross violation of statutory rules or principles of natural justice, resulting in miscarriage of justice, Courts are not to interfere with the domestic jurisdiction of the university administrative authority[8]. In *Sudeep Kumar's* case[9] the petitioner appeared in the L.L.B. examination and was declared passed in the First Division. Afterwards, on the plea that on a day of examination the petitioner did not sit in the proper seat allotted to him, a show cause notice was served. The petitioner responded to the show cause but his result was cancelled showing a different date for the cause of action. The Court noted the utter disregard to natural justice principles and gross exercise of excessive power. The duality of Examination Regulation of Panjab University was tested in the case of Yadhvinder Singh[10]. The regulation unnecessarily made the 'misconduct' hyper-technical. It stipulates for 'papers, books or notes in possession' that *could be of assistance* as a second degree malpractice and so less punishment was attracted. Only the paper concerned would be treated as cancelled. But the same article in possession if found relevant to the subject would attract more severe punishment of disqualification for appearing in the examination for two years. Such a confusing provision requires immediate interpretation. A small piece of paper with notes was recovered from the socks of the candidate when he was appearing in the B.Sc. Part III Examination in Physical Chemistry. Whether such a paper is relevant or could be used was a very technical matter on which the immediate action would be needed. In such a situation the Court should better not interfere with the interpretation of the University Standing Committee in which there were expert members. In the instant case the expert on the subject gave his opinion suggesting that the paper recovered 'does contain material which could be of use' in the paper concerned. On examination UMC Standing Committee of the University, *'which consists of members of great learning'* (remark of the Court, emphasis mine) found the possession of the paper *malafide* and incriminating of the subject concerned and hence decided to punish the candidate for two years. But the Court relied on the plain understanding of the expert opinion of the subject who must have made general remark. If a candidate could make use of a paper, how could it not be relevant in the subject concerned ? The judge instead of following the reason he himself tendered, took another view. Thus how even unknowingly Judicial interpretations encourage malpractices in the examination hall.

Our university education faces destablization on account of relatively static infrastructural facilities; comparative non-expansionism of our production relation; growing psychic pressure on the students community; institutions' inability to pursue a moral and ethical force due to fragile nature and fixity of rules; physical inability; improper and malfunctioning of the autonomy of our institutions and finally, perhaps inadequate political ability and intention. Over and above all these internal weaknesses and destablization, many external forces also account for lowering of the credibility of our academic system. Separation of power is not the essence of democratic functioning alone. The de existence to the total coordinated process adds t strength of solid existence of a systemic process. here perhaps, judiciary is failing, failing to unders the deontic existence of a system. It is here tha honourable Judge is unable to appreciate how malady of mass copying can vitiate the credibility o whole examination process. If our judiciary is unab study, analyse and appreciate the sociology of syste aberration and apply a policy of rule of law blindl may destroy any institutional system from within without so completely that any legal process wi timately not work. After all, Judiciary is the ult authority. If credibility of all internal agencies of ins tions are gone, only judiciary will not be able to re institutions.

Copying in the examination hall is, perhaps, as o the examination system itself. But coercive malprac taking advantage of the failing strength of institu has far more consequences. If allowed to continue system shall completely break. For that purpose in institutional processes are to be strengthened. In *Narayan Sah Prabhat and others v. Bangalore Un sity*[11] the fact in brief was :

The University's Examination Vigilance Fl Squad which made a surprise check of the Examina Room No. 101 where IV year B.E. examination being held on May 12, 1988 in a Private Enginee College "were perplexed to see that every candi more or less was indulging in malpractice. malpractice was rampant and this paper's manus related to malpractice both printed/photostat w were strewn all over the room. When we started b ing cases students objected and obstructed and ca our way of booking." [12] Now if one follows the reaso of *Dipa Pal's* case then the action against those stu forcefully copying could have been quick and effec It was a serious situation in which the Flying Squa forcefully prevented to discharge its duties. It is n astonishing to find that the Honourable Judge fou analogy of application of principle of natural just a most dis-similar case relating to resignation teacher of a private educational institution[13]. Ha Judge applied a practical logic as advanced in Dipa case, he would have landed into a different propo However, it was decided in this case that 'the rep the Malpractice Enquiry Committee (obviously o report of the Squad composed of senior unive teachers) would be liable to be regarded as one b on no evidence'. Naturally the Judge found in the examinees. He did not consider the imm report of the Squad stating forceful mass cop material collected and the fact of physically stand the way of the Squad comprising senior level tea

e university to be enough evidence. That shows
ur judges are often not conscious about the social
e and keep themselves away from social develop-
s. Such disconnection with the real life situation
cause serious impact in destablizing inbuilt institu-
l rectification.

nother moot issue was whether the situation war-
d exercise of emergency power of the Vice Chan-
r or not. Mass and forceful copying going to the
t of preventing physically the senior teachers from
arging their duties, according to honourable Jus-
Venkatachala, was analogous to resorting to
ractice in the examination hall. But the truth is that
s not. Such a kind of ganging up in forceful mass
ing invalidates the credibility of education system
e whole nation and permanently injures millions of
cent students who sit through the examination by
of their merit. The Squad Chief Dr. S. Gurumurthy
ained in detail the whole practice of mass copying
ont of invigilators who pleaded their helplessness.
lso reported that the 'personal safety' of the mem-
of the squad 'in stake'. The report explained the
culty for booking individual cases and recom-
ded action against examinees of the Room except-
a row of students, 'en masse'. That was definitely a
emergent situation and not a normal one. Here
analogus decision refered to in *Hukum Chand v.
on of India*[14] in which the principle of 'exercising
er in the manner prescribed and not in any other
', was perhaps, not proportionate. In the cir-
stance related in the case ordinary law of dealing
malpractice individually committed, could hardly
pplied. The internal institutional strength was re-
red to be immediately applied with full implication
ng which institution would lose its validity.

A very pragmatic and partinent observation was, of
rse, made suggesting to hold examination not in
ne centre with examinees of various subjects pressed
. The full implication of such suggestion could be
lored. The practical knowledge in the affair of the
iversity administration is perhaps required to be with
justice system in settling issues involving University
erest. Soon this special interest is recognised the
ter. A special central tribunal for University litiga-
n is what is needed for the country before the vitality
university administration is completely lost.

ferences

vadesh Katre V. State of Madhya Pradesh and others, AIR 1990
M.P. 214.

id

IR 1970 SC 1039

id

păckman v. Plumstead Board of Works (1885) 10 App. Cas. 229

6. AIR 1952 Cal 594
7. **ibid**
8. **Ratiram Singh Yadev v. Principal, Government Polytechnic and others** AIR 1990 M.P. 129 and **Omsankar Chanderi v. M.P. Technical Education Board** M.P.No. 411/88
9. **Sudeep Kumar v. Vikram University & another** AIR 1990 M.P. 110
10. **Yadhvinder Singh v. Panjab University & another** AIR 1990 P & H 309
11. **Ram Narayan Sah Prabhat and others v. Bangalore University** AIR 1990 Kant 39
12. **ibid**
13. **P. Kasilingam v. P.S.G.College of Technology** AIR 1981 SC 789
14. AIR 1976 SC 789

Teacher Training in Higher Education

(Contd. from page 3)

terms of three-hour papers. It should be rather in the form of seminar presentations, projects, group discussions, thesis etc. There should also be inbuilt incentives in the form of advanced increments for satisfactory completion of refresher courses.

(h) Teachers who do scholarly work like publishing research papers, writing scholarly articles, participating actively in professional conferences etc. may be given advanced increments, even without attending regular courses.

(i) Those who do specially well in training programmes should be used as resource persons for future programmes.

(j) Before developing training programmes for college teachers, the success of B.Ed. programme in producing better teachers for schools may be assessed. There is a feeling that these programmes have only been marginally successful in the sense that history, philosophy, psychology courses are mainly academic, subject teaching courses are out-of-date and the methods given to the students are seldom used by students in their actual teaching. It is also felt that new alternatives to this programme cannot be easily implemented, because of the vast vested interests that have developed in these present programmes. These criticisms may not be valid, but do require consideration when we design new programmes for training of college teachers, since later on changing the programmes may be difficult. In this sense, keeping Academic Staff Colleges on an adhoc basis has been useful, because now these can be adopted to new conditions very easily.

Systems Approach to Design of An Instructional System

Vandana Mehra*

System

A system is an assemblage of material components operating within a prescribed boundary and united by some form of regular interaction or interdependence to form a coherent and integrated whole (Narendra, 1980). Angyal (1941) defined asystem as a holistic organization, where parts of the system are arranged (organized and interrelated) in a way that distinguish them from a simple collection of objects. Aristotle's statement, "The whole is more than the sum of its parts" indicates the basic nature of a system.

Systems may be natural, such as those found in nature-solar and environmental, or they may be man-made, such as those found in society – political and educational. Within the perspective of natural and man-made systems, a hierarchy is identifiable. Special attention must be paid to the hierarchical character of the system, as it is intimately connected with its wholeness. Systems can encompass something as large as a whole social environment or something as small as a lesson of instruction. The former is called *macrosystem* and the latter a *microsystem*. A microsystem maintains all the characteristics of a macrosystem. All systems are made up of parts called *sub-systems* and are parts of the higher order system called the *supra-system*. A simple system is illustrated in Fig. 1.

In the above figure, the system consists of four distinct elements or components A,B,C,D, which are related to or dependent upon one another as indicated. Some interrelationships may be two-way, while others may be one-way only.

Education is a dynamic system, its efficiency being determined by the inputs and the outputs. It is a dynamic organization of mutually related components in a meaningful pattern (Silvern, 1968), and any change in one component may affect the overall performance of the system, either beneficially or adversely. The 'systems' model of the process of education is given in Fig. 2.

As is evident from the above figure, input to an educational system consists of people, resources and information, and the output consists of people whose performance has improved in some desired way. The output is improved through increasing the efficiency of educational/learning process for enabling optimum assimilation of knowledge and skills to occur during the educational/learning process and hence maximize the quality of the output. (Pervical and Ellington, 1984).

Instructional System

Instructional system may be viewed as composed of various interrelated components functioning together to achieve a purpose (Hannum & Briggs, 1982), the purpose being directed and controlled learning. An instructional system is an important sub-system of the educational supra-system. If instruction is not made to contribute effectively to education, the aims of education cannot be realized. A planned instruction helps each person to develop optimally in the direction of his own tendencies – innate and/or acquired.

Instruction is the sequence and arrangement of the external conditions of learning in a way that will interact with the internal capabilities of the learner so as to bring about a change in their capabilities. An instructional design is a physical layout which describes the manner in which a student should proceed to learn or a teacher to teach or a combination of both (Gagne, 1965).

Newer approaches to instructional development and delivery have been variously termed systematic instruction, instructional design, instructional systems development, instructional development, and educational or instructional technology.

The design and development of an instructional system with minimum cost requires exhibition of maximum flexibility and receptivity to new ideas and approaches, careful planning and continuous evaluation of how well the new design meets one's objectives for majority of the students in the class (Mehra, 1986).

Components of an Instructional System

The principal components of an instructional system are students (their background, ability & objectives), teachers and instructional materials (Howe, 1967). A the components for the instructional system ar designed to be compatible with each other in terms o objectives, methods, and evaluation of learner perfor mance. The technique for instructional design is base upon research and experience. Formative evaluation

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ts improve the system while it is being designed,
lowed by summative evaluation to determine if the
stem meets its design objectives. Thus, it may be said
at various components of an instructional system are
i) stating instructional objectives which helps system
signer to decide what to teach and how to teach it,
) pupils, (iii) teachers, (iv) content, (v) determining
timum learning conditions to attain instructional ob-
ctives, i.e., task analysis, keeping in mind the entry
haviour of learners. Task analysis also enables ap-
opriate sequencing of learning tasks, (vi) deciding
on the instructional strategy and media; and (vii)
nducting evaluation (formative and summative) and
edback.

ystems Approach

Since the late 1950's the "systems approach" —
riously described as systems engineering, systems syn-
esis, and system analysis — has received considerable
tention as an effective strategy for resolving increas-
gly complex social, cultural, economic and technologi-
al problems.

The publication of Bertalanaffy's first works on
general systems theory" (late 1940's) notably his impor-
ant article, "An Outline of General System Theory" in
958 aroused lively interest in scholarly circles, where
e has consistently argued that systems theory described
theory of organization — an analytical, integrative
roblem-solving strategy which is equally appropriate
o philosophy and environmental conservation as it is to
nissile engineering and computer technology. Ber-
alanaffy thus conceived of the systems approach as
ombining purposeful activity and rigorous analysis,
vith creativity in goal-setting, flexibility in problem-
olving and human individuality as underlying themes.

Thus, systems approach is a term used to describe
he systematic application of Educational Technology
o an educational or training problem starting with the
nput (entry behaviour) and output (terminal be-
haviour) and determining how best to progress from the
ormer to the latter (Pervical and Ellington, 1984).

Systems approach is an educational tool developed to make the educational adventure more successful, holistic, responsive, responsible, logical, orderly, self-correctable and flexible, rather than wholly intuitive, unordered, undefinable and doubtful (Kanfman, 1976). What is unique about the systems approach is that, it enables the analysis of not isolated components, but of the whole and helps one to think in a Gestalt way rather than in a fragmented manner. Cyrs and Lowenthal (1970) define systems approach (when applied to education) as a "........rational problem solving method of analyzing the educational process taken as a whole, incorporating all of its parts & aspects, including the students & teachers, the curriculum content, the instructional materials, the instructional strategy, the physical environment and the evaluation of instructional objectives." Systems approach may be used to design a single lesson, a course, or an entire curriculum.

Systems Approach to Design of an Instructional System

Systems approach to instruction creates a learning environment via arrangement of the components of an instructional system to facilitate student learning through interaction between the learner and teacher. The teaching-learning process is thus systematically planned, designed, carried out and evaluated. Application of systems approach to instructional design will produce a learning system which arranges human and non-human resources in an efficient manner for effective student learning, directed at achieving specific objectives. Systems approach to instruction is based, on one hand, on logical thinking and planning, making use of all theory and research evidence available, and on the other hand, upon empirical test and fact finding. Systems design includes the process of planning the instructional setting, the delivery system, and all instructional hardware and software, including teacher's manuals — all components needed for the "system" to operate as intended by the designers (Briggs, 1982).

Both "instructional systems design" and "educational technology" refer to the design, development, production and evaluation of both educational hardware (computers, T.V., projector) and software (instructional materials or lessons).

A Model

About 25 models were examined closely in a review of research literature (Mehra, 1986). Model descriptions varied in the numbers of stages or steps in systems design, varying from 4 to 12 components, but the incorporating components were found to be quite similar, though arranged in different order and with a different nomenclature.

Various stages of Systems Approach to design of an instructional system are represented in Fig. 3.

The various stages of the model have been explained below:-

Stage 1 : Needs Assessment : This step determines what needs to be taught, i.e. by assessing what skills students possess and what areas they are not as proficient as they should be. Once these areas have been identified, instruction is designed to meet those needs. The purpose for the instructional system should be derived from the environment of the instructional system.

Stage 2 : Analysis of Resources and Constraints of the System : Resources include time, money and capabilities of people who are to design and also those who are to operate the system. Lack of time, experimental material and additional resources and restricted freedom to innovate are the various constraints on the system designer.

Stage 3 : Task Analysis: Next, the component skills, knowledge and attitudes that comprise the identified need are analyzed.

Stage 4 : Development and Sequence of Instructional Objectives: Objectives are derived as a consequence of task analysis. In sequencing objectives, natural groupings or patterns are evident. Instructional objectives are stated in terms of observable outcomes expected from the learners, taking care of learning hierarchies. This also broadly sequences content.

State 5 : Development of Entry Level and Pre/Post Tests: Entry level tests enable us to determine if a student possesses the skills and knowledge necessary to proceed with new material as these are powerful determinants of the potential success of instruction. Pre-tests measure the students competency on instructional objectives prior to the programme. Post-tests measure competency of students after the programme has been completed. These tests come directly from the objectives and allow identification of competency levels early in the instructional design. Thus, the instructional material can be designed to meet these levels. The post-test enables formative evaluation (that helps to improve the instruction while it is being designed) and summative evaluation (that helps to determine the validity of the instructional system itself).

Stage 6 : Decision regarding Instructional Strategy and Selection of Media : Most appropriate instructional strategy has to be decided here, i.e., will the instruction be lecture or small-group, self-paced or simulation. Another important sub-stage is the selection of the medium that will complement the chosen instructional strategy. All the assets and liabilities of each medium should be considered in relation to the instructional strategy.

Choice of an instructional strategy and media are based upon considerable empirical evidence about the effectiveness of various instructional strategies and media (Bretz, 1971; Briggs and Wager, 1981) appropriate to the learning tasks and to the characteri of the learners, within the constraints of the situa

Stage 7 : Preparation of Instructional Material: In th stage, all the previous stages come together. Instru tional material is based on needs assessment, ta analysis and instructional objectives. Series of lesso are designed in an instructional system for accomplis ing effective sequencing of subordinate skills and al providing for desired instructional events, lik (a) directing attention, (b) informing learner of th objective, (c) stimulating recall of pre-requisites (presenting stimulus material, (e) evoking studen responses, (f) providing feedback, (g) guiding thinki (h) enhancing retention and transfer, and (i) evaluatin student performance (Gagne, 1968).

Stage 8 : Individually Conducted Formative Evalu tion/Revise: In an instructional systems approac evaluation and revision of instruction are of prime i portance. Here, the instructional effectiveness of th programme has to be identified. To determine th some students (2 to 5) from the target population ar identified and the lessons are tried out on them. should be made clear to the students that this evaluatio is a test of the programme's effectiveness and not a te of their ability. Revisions are made in accordance wi empirical data, i.e., students' scores on post-tests an reactions to the lessons, rather than upon "guess wor on the part of the instructor. This instructional revisio based on formative evaluation increases instruction effectiveness.

Stage 9 : Group Conducted Formative Evalu tion/Revise: Next, the instructional programme is a ministered to a group (20-30 students) of the targ population. Effectiveness of the lesson is determine by the post-test. The instructional programme shoul meet the criteria established by the instructional syste designer. Pre-test/Post-test comparisons may be do and if criteria are not met, a return to stage 3 f re-evaluation of the design process is a must.

Stage 10 : Implement Instructional Programme : Th programme is put to use in the situation for which it w created, i.e., implementation in real life situations.

Stage 11 : Conduct Summative Evaluation : Th stage calls for a continual evaluation to ensure that th instructional material continues to meet its stated ob jectives. It enables conclusions regarding effectivene and feasibility of the new instructional approach i relation to the previous one.

Stage 12; Revision of Instruction and Materials Bas on Evaluation Data : After one or more summati

ıations reflect an acceptable degree of merit, the
system is ready for widespread adoption and
lar use. The instructional materials are improved
regard to any change in the instructional objectives.

l Word

ın extremely important aspect of tomorrow's educa-
al system will be training of the teaching staff,
gned to ensure that teachers are thoroughly familiar
and proficient in the use of the new techniques
e available by information technology and have a
ough understanding of the principles and practice
ne technology of the design of an instructional sys-
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erences

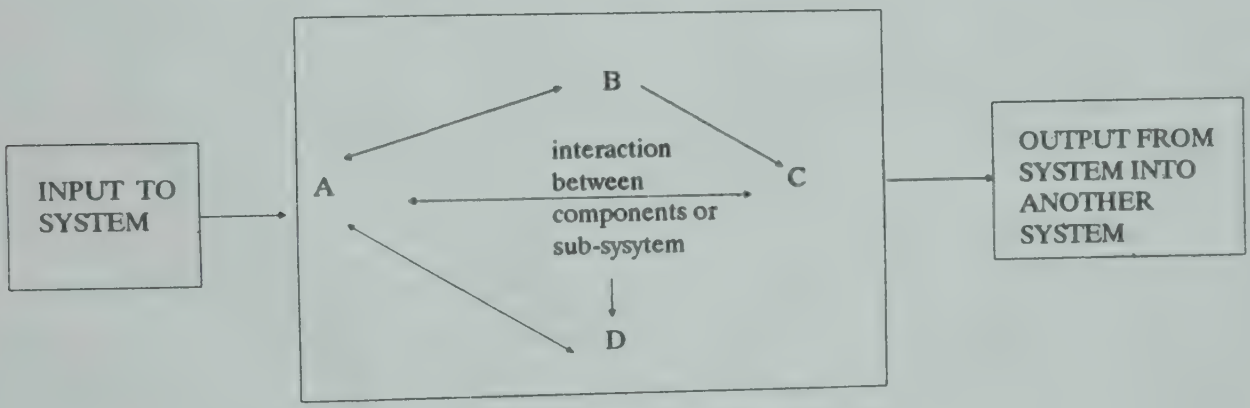
ngyal, A. **Foundations for a Science of Personality**, Cambridge, lass : Harvard University Press, 1941.

Bertalanaffy, L. Von. **General Systems Theory**. New York : eorge Braziller, 1958.

Bretz, R. **Taxonomy of Communications Media** Englewood liffs, New Jersey : Educational Technology Publications, 1971.

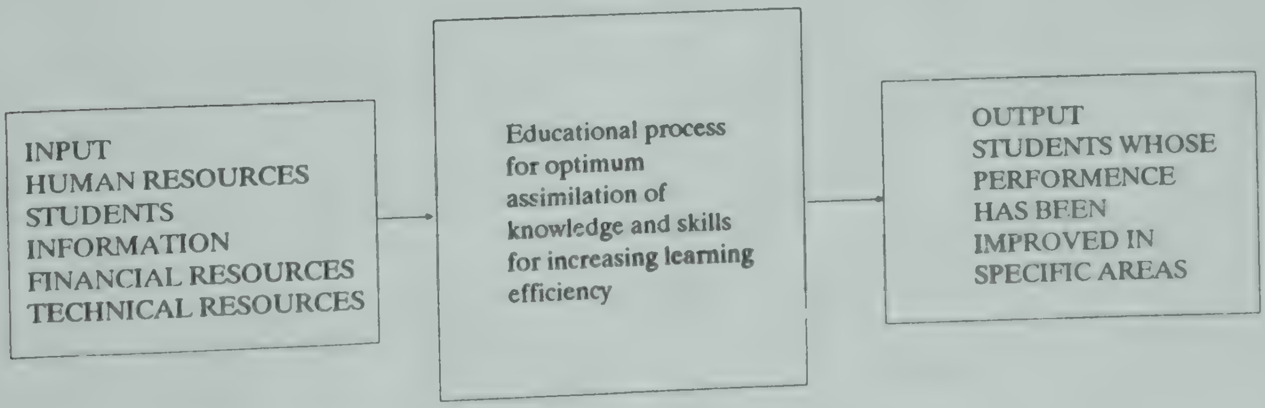
Briggs, L.J. Systems Design in Instruction. In H. Mitzel (Ed.) **ncyclopedia of Educational Research** (5th edition). Vashington D.C. : American Educational Research Association, 982, Vol. I, 1851-1858.

5. Briggs, L.J. & Wager, W.W., **Handbook of Procedures for the Design of Instruction** (2nd edition). Englewood Cliffs, New Jersey : Educational Technology Publications, 1981.
6. Cyrs, I. and Lowenthal, R. A Model for a Systems Approach to Curriculum Design, **Audiovisual Instruction**, January, 1970.
7. Gagne, R.M., **The Conditions of Learning**. London : Holt, Rinehart and Winston, 1965.
8. Gagne, R.M., Learning and Communication. In R.V. Wiman and W.C. Meierhenry (Editors), **Educational Media : Theory into Practice**, Columbus, Ohio : Merrill, 1968, 93-114.
9. Hannum, W.H. & Briggs, L.J. How does Instructional System Design Differ from Traditional Instruction? **Educational Technology**, January, 1982, 9-14.
10. Howe, H. **Education...... Everybody's Business**. Washington, D.C. : U.S. Government Printing Office, 1967, 17-23.
11. Kaufman, R. System Approaches to Education. In S.E. Goodman (Editor), **Handbook on Contemporary Education**, New York : R.R. Bowker Company, 1976, 107-113.
12. Mehra, V. **Effectiveness of an Integrated System of Instruction for concept and principle learning in different school climates at secondary level.** Unpublished doctoral thesis, Panjab University, Chandigarh, 1986.
13. Narendra, K.S., Systems Engineering. In W.D. Halsey and E. Friedman, **Collier's Encyclopedia**, New York: Macmillan Educational Corporation, P.F. Collier, Inc., 1980. P.25.
14. Pervical, F. & Ellington, H. **A Handbook of Educational Technology**, London : Kogan Page, 1984.
15. Silvern, L.C. Cybernetics and Education. K. 12. **Audiovisual Instruction**, 1968, Vol. 13, 267-275.



INPUT TO SYSTEM
A
B
C
D
interaction between components or sub-sysytem
OUTPUT FROM SYSTEM INTO ANOTHER SYSTEM

Figure 1. A TYPICAL SYSTEM



INPUT
HUMAN RESOURCES
STUDENTS
INFORMATION
FINANCIAL RESOURCES
TECHNICAL RESOURCES
Educational process for optimum assimilation of knowledge and skills for increasing learning efficiency
OUTPUT
STUDENTS WHOSE PERFORMENCE HAS BEEN IMPROVED IN SPECIFIC AREAS

Fgure 2. THE 'SYSTEM' MODEL OF THE EDUCATIONAL PROCESS

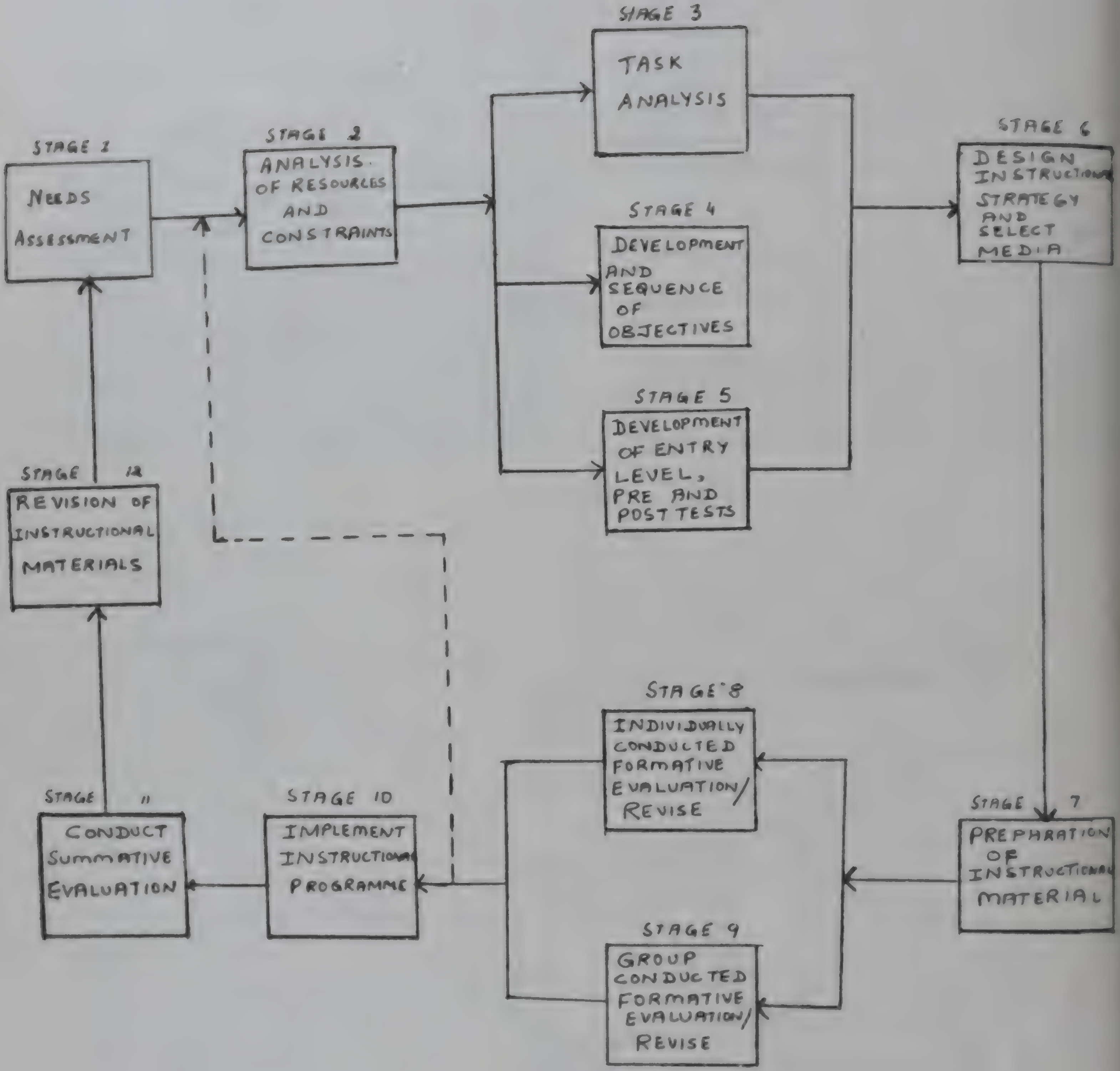

STAGE 1
NEEDS ASSESSMENT
STAGE 2
ANALYSIS OF RESOURCES AND CONSTRAINTS
STAGE 3
TASK ANALYSIS
STAGE 4
DEVELOPMENT AND SEQUENCE OF OBJECTIVES
STAGE 5
DEVELOPMENT OF ENTRY LEVEL, PRE AND POST TESTS
STAGE 6
DESIGN INSTRUCTION STRATEGY AND SELECT MEDIA
STAGE 7
PREPARATION OF INSTRUCTION MATERIAL
STAGE 8
INDIVIDUALLY CONDUCTED FORMATIVE EVALUATION/ REVISE
STAGE 9
GROUP CONDUCTED FORMATIVE EVALUATION/ REVISE
STAGE 10
IMPLEMENT INSTRUCTIONAL PROGRAMME
STAGE 11
CONDUCT SUMMATIVE EVALUATION
STAGE 12
REVISION OF INSTRUCTIONAL MATERIALS

Figure 3 : Model of an Instructional System

The Role and Strategies of Agricultural Universities to Meet the Challenges and Utilize the Opportunities in Agriculture and Allied Development

D. M. Maurya*
Ram Kishore**

troduction

It was envisaged at the time of starting the Agricul-ral Universities that the general universities would e up the affiliated agricultural colleges. This never ppened in practice. Some of the agricultural colleges the general universities do not have a sound man-wer base and have not been able to develop the quired infrastructure and facilities. The standards of ucation differ from university to university due to riations in admission requirements, course contents, aluation methods and standards, quality of scientific aining of staff, etc. The quality of output, specially in search, will largely depend on the quality of the per-nnel coming out of the educational system and there thus, a need to upgrade agricultural education ogrammes and improve quality. There is a need to ilize the advanced facilities effectively for imparting ducation at the advanced level specially in the frontier eas such as biotechnology, genetic engineering, com-uter applications, environment education, energy anagement etc.

ole of Agricultural Universities

Consequent upon the recommendations of the Rad-akrishnan Commission to set up rural universities, to rve the farming community, to go for scientific method crop production, to meet the food needs of millions, gricultural Universities have been established with the llowing objectives:

- Making provision for imparting education in different branches of study, particularly agriculture, horticulture, veterinary and animal sciences, fisheries, forestry, agricultural engineering, home science, rural industry and business and other allied branches.
- Furthering the advancement of learning and prosecution of research particularly in agriculture and other allied sciences.
- Undertaking the extension of such services especially to the rural people of the state.
- Such other purposes as the University may determine from time to time.

Essential Features

- Statewise/regional responsibility for teaching, research and extension education.
- Integration of teaching, research and extension at all levels of university administration.
- Unified administration and complementarity of the colleges and departments and multidisciplinary team work in the development of programmes of education, research and extension.
- All the colleges should be constituent units for ensuring proper standards and quality without any arrangement for affiliation.
- Flexible course credit system backed by continuous internal evaluation.
- Acceptance, by all concerned in the university of a philosophy of the service of agriculture and rural community and emphasis on programmes which are directly and immediately related to solving social and economic problems of the countryside.
- Quick communication of new knowledge to students in classrooms, to extension workers and farmers for adoption of production technology.
- Programmes giving specialized training to the maximum number of rural youth and adult, men and women who are not candidate for degrees through departments involved, who may be responsible for subject matter to be taught.

In the agricultural universities, the teaching, research and extension functions are attempted to be integrated to mutually reinforce each other. The teachers are directly involved in deciding the content and method of teaching as also the evaluation mechanisms and are made responsible to the changing needs that agricultural development poses in terms of the requirement of technical manpower. These special features enable the agricultural universities to bring relevance and quality

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to the academic programmes.

Challenges

The agricultural universities in India have been successful in their primary mission of achieving a phenomenal increase in agricultural productivity and in gaining the confidence of Indian farmers. By this success they have earned a high degree of credibility from people in the rural areas. Over the years, many of these universities have become strong in terms of appropriately trained manpower and physical and financial infrastructure needed for high quality agricultural research. By strengthening regional research they are in a position to conduct research of relevance to the agro-ecological regions. They are playing a very significant role in stabilizing the achievements of green revolution and are continuously striving hard to meet the challenges of increasing production and productivity. The expectations of the country from these universities are great. In future, agriculture in India needs to move away from an exclusive commodity focus to a greater emphasis on the development of new agricultural systems that not merely includes production but their integration with other household activities, market for their sale, facilities for their processing, delivery of farm inputs, availability of credit and farm policies.

In order to meet these challenges and expectations, these universities shall have to reorient and revitalize their entire activities in the future.

Challenges Before Teaching Function

– *Admissions:* Admission in agricultural universities poses two kinds of problems. The postgraduate admissions need to be looked in the order of national priorities including national integration and undergraduate admissions consistent with requirement of states. The students and parents are facing unique problem of applying before a large number of institutions to seek disappointment and frustration. The state government could conveniently think of arranging single state level test to admit undergraduate students. Similarly a national test could become more purposeful for post-graduate admissions.

– *Maintenance of Academic Standards:* Erosion in academic standards is becoming a subject of frequent discussion among the public, which also shows its concern. Maintenance of academic standards is being considered a great challenge of the day. The factors responsible should be carefully examined to assess its share in erosion.

– Practical Learning/Skill Training/Entrepreneurial *Capability:* In spite of so much attention being pa
provide better facilities for improving practical lear
and skill training of students to equip them to be
confident to tackle common field problems, agricu
education continues to have with it the stigma of p
entrepreneurial capability distracting university lea
students from farming as a career and making them
for white collar jobs.

– *New Academic Programmes to Link with M*
power Needs: With a view to ensure proper utiliza
of resources and actual manpower requirement,
academic programmes should be started after car
thinking. Only the desired kind of manpower shoul
generated which could be useful.

– *Academic Programmes in Frontier and Emer*
Areas: Universities have to remain always alert
alive to identify the frontier and emerging areas we
advance to generate lead manpower to take up
responsibility of creating infrastructural and acade
facilities to enable to start new programmes. New co
ses in emerging areas like biotechnology, compu
science, research management etc. have to be int
duced to meet the challenges of "New Science",
vanced centres of research and education in these ar
should be established.

– *Multidisciplinary Vs Discipline Oriented Cours*
Instead of continuing indefinitely with the old discipl
oriented courses the real problem solving appro
through multidisciplinary courses could be tim
adopted, to widen the horizon of practical learning
inculcating necessary confidence in graduates to tac
field problems effectively.

– *Client Oriented Product:* We frequently nee
check up if we meet the expectations of our clien
group through necessary updating of curriculum
theoretical, practical as well as professional c
petence of desired level to deliver the goods. We h
to be watchful to see that our product does not bec
obsolete even before reaching the market. A judic
mix of core as well as ever changing electives coul
the need to face the market.

– *Examinations - Sanctity and Uniformity:* We h
reached a stage when examination is being conside
as an item which cannot be trusted with. A vicious c
of mistrust has been formed and examinations have
their sanctity. There is hardly any uniformity in
conduct of examination. Education consistent
proper standard cannot be considered a reality wit
a valid examination.

– *Good Teacher:* The entire quality educatio around a good teacher. We have to see if we really 'e good teachers, if we are really sincere to have and intain good teachers. The research yields quick ognition, whereas, it takes long to have good teachers well as to realize late of not having good teachers and ount of harm done.

— Educational Planning: Educational planning does t seem to form the real basis for infrastructural velopment/personnel policies and admissions. Ad- cism often eat away the resources in futile develop- nts and unconsidered programmes. We have the allenge to take in the proper raw material and to turn o good finished product through a well designed quence of operations.

— Financial Support : The investments could be fully stified in human resource development programme at the quantum of financial support to education is very eagre. It is a challenge to educate and train our lot of eople with too little to spend on them. A large number talented young brains do not find proper educational nvironment to develop and blossom and to contribute.

— Staff Development : Whereas we continue to suffer om problems of identifying good teachers, we are ardly doing anything to their career development. Vhether we are really doing sufficient to keep our achers well versed and uptodate as source of nowledge so that they could continue to show the rch.

— Inbreeding : Inbreeding is a big challenge in the ay of quality of education. Students have a common endency to benefit from the acquaintances done during he first course and are reluctant to go to different nstitutions for different degrees. To further aggravate he problems, these inbred students take up teaching obs in the same institutes. Local considerations such s sons of soil make the things still worse. Whether we hall be ever able to do away with the inbreedings.

— Lack of Culture : University campuses are suffer- ng from want of proper culture, be it academic or griculture. Often we find that academic culture is either absent or too distant to permit academic endeavours and also the culture of agriculture is badly missing, rendering the campuses unfit to make a mark or impress upon people to carry enough good messages to their direct benefit.

— Continuance of Substandard Private Agriculture Colleges : Such colleges are continuing to admit disproportionately large number of students than their facilities (if any) permit. State government and agricultural universities have a challenge. They cannot close them down, they cannot improve. Sincere and serious thinking and tough decision alone can force them to go for alternative uses. To offer them an opportunity to improve, would call for indefinite time which may seldom materialise.

— Prescription of Equipment Matching to Course Programme : In the absence of proper prescription as well as non-availability of funds, one time purchase of bare minimum equipment is itself a costly and difficult proposition. Even if an equipment has been purchased it is challenging to keep it in proper running condition.

— State Support/Leadership : Agricultural universities cannot meet the prescribed objectives unless they have got the full support of the state government in terms of political will, as well as financial assistance. The university leadership through its Vice-Chancellor is another component with major share in success or failures. Men of calibre, commitment can give effective leadership on road to all round success in education, development and overall nation building.

— Evaluation of Ongoing Programme : Ongoing programmes should be thoroughly and timely evaluated to see if they continue to meet the prescribed objectives otherwise they could be considered for mid term modification or termination if not likely to serve the purpose.

— System Agriculture and Experimental Learning should form part of the curriculum and these should be viewed as an opportunity to understand decision making at the farm and village level and to learn from farmers, wealth of practical knowledge about farm and village life.

— Role of ICAR : UGC/ICMR/CSIR/AICTE/ICAR/MCI etc. do have a challenging role to play for the cause of quality education. There is a need to assess if ICAR is doing its due in agricultural education, or it could be armed with more power or authority for the purpose.

Challenges Before Research Function

- Research for immediate professional recognition
- Discontinuity of area of research by scientists
- Generation of location specific technology
- Expectation of better standard of living of rural youth
- Disinclination towards manual work
- Lack of proper tools/gadgets for performing various jobs
- Demand for dignified status while performing farm

job

Flood, drought, hailstorm, diseases/insects.

Investment in Research: Although there has been an increase in the investment every year for agriculture research in the country, the total amount and the rate of increase are far below the world norms. The investments made on agricultural research as a percentage of value of output is only 0.3% which is probably the lowest in comparison with other countries.

- *Manpower Requirement (HRD) :* Although total number of scientists engaged in agricultural research and education in India looks very high, it compares less favourably with many developed countries. There are 131 scientists per million hectares of cropped area in the country. For every one million agricultural labour force there are 108 scientists and only 45 scientists are there to serve one million agricultural population. These figures are very low when compared with many other countries.
- *Efficient Utilization and Management of Manpower:* The large manpower size itself poses a formidable challenge to the system for the efficient utilization of the available manpower. In order to realize the potential available from such a large manpower resource the system needs to find ways and means by which each individual can give his or her best to it. At the same time, the system should also be concerned with the needs of its employees and their growth and development. Only when there is a proper match between these two, the system will be more productive.
- *Increasing Productivity and Improving Sustainability:* The factors like increasing population pressure, shrinking land resources and increasing problems of soil, water and environmental degradation call for increasing productivity and improving sustainability of agriculture without detriment to the environment.
- Improving efficiency of costly inputs.
- Breaking yield barriers of wheat and rice and increasing productivity and stability of yields of pulses and oilseeds.
- Intensifying research on agro-forestry, silvipastoral and agro-horticultural systems to solve the fuel and fodder problems.
- Fighting abiotic stresses due to pests and diseases through genetic manipulations and biological control.
- Managing biotic stresses due to pests and diseases through genetic manipulations and biological control.
- Paying more attention to post-harvest technology with special emphasis on processing and marketing of important crops.
- Intensifying the efforts to collect, maintain evaluate and utilize the germplasm through national and international cooperation.
- There should be strong political will and administrative determination in the state to strengthen agricultural universities by providing adequate resources and other facilities. This will go a long way in maintaining standards of agricultural education. In U.P. where there are three agricultural universities and many other agricultural colleges, a Council of Agricultural Research has been established to coordinate all teaching, research and extension activities.

Challenges Before Extension Education

Popularisation of location specific technology

Challenges Before Development

- Social transformation (Expectation of people)
- Growing unemployment
- Low power availability for farm work
- Low labour availability
- Insufficient nutrient availability
- Inadequate water availability
- Insect, diseases and weed problems
- Soil erosion
- Ravines
- Run off
- Salinity alkalinity
- Deep stagnation and flooding
- Hailstorms
- Untimely, erratic and ill distributed rainfall
- Post-harvest management problems
- Storage, marketing and distribution problems
- Under nutrition and malnutrition
- Regional, seasonal and crop imbalances

Opportunities

To meet the basic need of our ever growing population in terms of food, fibre, and shelter we have some resources at our command, which need to be judiciously utilized in most effective way so that the things could continue to remain in a balanced stage. We run the risk of exhausting some of the resources if they are not anaged and misused. Some of the resources could be sted as below for the sake of attracting attention :

- Human resources
- Land and water resources
- Plant/animal/fish genetic resources
- Environmental resources — light, temp, rain etc.
- Capital resources
- Entrepreneurial resources
- Potential for employment generation
- Untapped agricultural potential
- Elective courses

The elective courses in the curricula has been introduced to meet the emerging employment opportunities in the agricultural sector in the country such as banking, farm machinery, agro-chemicals, seed technology, fruit and vegetable preservation.

The undergraduate curricula/programme provides opportunities for the students to acquire realistic practical skills of production of crops in the fields and to grasp the constraints that the farmers face in the rural areas. The practical crop production courses have been introduced covering a full agricultural year on sufficiently large sized plots operated by teams of students on a cooperative basis and working on a commercial basis through "Earn While You Learn" programmes.

Rural orientation is through courses in extension requiring a few weeks of study in the assigned villages, collecting information and observing agricultural practices under supervision. The full term courses have been framed and are being guided and monitored in the villages for one semester in fourth year (Final year) programme. This programme is called Rural Agricultural Work Experience (RAWE). Two to four students work with selected farmers in a village going through, participating in the entire agricultural activities and studying along side the extension programmes that are in operation.

The curriculum provides flexibility to teachers to upgrade the course, incorporate new knowledge and provide students opportunities of learning by doing. The system also provides for individual researchers, working in specific specialized areas an opportunity to teach courses in their own specialization, thus giving a practical bias to the teaching programmes.

The students with training in basic sciences area like physics, chemistry, botany, zoology, mathematics etc.; also have opportunities of interacting closely with applied science areas like agriculture, agril. engineering, animal science and diary technology and fisheries.

Strategies

In the light of the challenges before agricultural education and development which is being looked after by agricultural universities and state departments of agriculture, horticulture, animal husbandry and other allied ones, respectively and different resources (some of them abundant while others being scarce) and untapped potentials at our disposal, suitable strategies need to be framed for all the concerned groups. State and agricultural university resources could be properly mobilised for a desired growth and all round development to result in involvement of all concerned as well as equitable distribution of the gains to meet the expectations of the people who look forward for social transformation.

Some of the strategies have been listed for discussion as below:

Effective Education System

For purposes of evolving an effective education system for the future, the agricultural education has to be conceptualized as a 3 tier structure in which:

The lower level pertains to the elementary schools where agriculture as a subject in upper primary classes should be given sufficient weightage in the biological sciences.

The Middle Level Courses

(a) Secondary or higher secondary schools offering agriculture as an optional subject, and

(b) Group of vocational schools offering certificate or diploma.

The agricultural universities need to redefine their role and mission to include a wider focus on the rural development activities. It should be kept in mind that more than 50 per cent of the rural development efforts are directed towards agriculture alone. Thrust in rural development can effectively be attended to by the agricultural universities either by adding separate departments in them or wherever possible, by promoting collaboration with related institutions. Education is now considered not as a means of transmitting knowledge or skill but as a means of establishing "desirable future" and hence curriculum development should have orientations to the 'Future' and to the inculcation of competencies with which today's learners could tackle the problems of "tomorrow".

- *Curriculum Development :* The curriculum development in agriculture and allied sciences occurs in response to various factors.
- *Feedback from Farmers :* Interaction with farmers which indicates the deficiencies that they seem to notice in the technical people who serve them. Now almost all agricultural universities hold farmers fair as a regular feature at their campuses and regional research stations which provides for such an interaction with the farming community.
- *Need Based :* The curriculum development should be need based.
- *State and National Seminars for Timely Review :* To organise workshops on curriculum development at state and national levels.
- *Right Mix of Science and Technology :* Modernization of agriculture in a developing country to take care of future need has to be prepared with highest degree of sophistication in science. The agricultural education should, therefore, have the right mix of science, technology and orientation towards rural needs. In fact agricultural education planning should represent a combination approach of several demands, manpower requirements and market regulations.
- *New Academic Programme :* New academic programmes in new frontier areas.
- *Emerging Challenges:* Relevant curriculum planning to meet emerging challenges call for holistic perceptions, imagination, innovativeness and bold initiatives.

Qualitative Approach

- *Sustainability :* Many new ideas and issues (like sustainability, ecological balance etc.) could be easily incorporated in certain existing courses.
- *Multidisciplinary Courses :* New integrated interdisciplinary courses (e.g. Integrated Production Technologies, Animal Management, Nutrition Management, Water Management, Weed Management etc.) and special optional courses for women students need to be included. Redundant discipline based courses may be replaced with new courses like FSR/E Farm Management, Development Education etc.
- *Establishment of Centres of Excellence in Emerging Areas :* Centres of excellence in emerging areas should be opened in advance so that they could function as lead centres.
- *Learning Centered Instructional Approaches :* Instructional approaches need to be structured around learning-centred problem – identification, problem solving situation optimizing/improving experience assignment. The faculty need to be oriented towards adopting experience-centred learning teaching strategies and methods. Workshops and inservice programmes with this focus will assist in this orientation. Each agricultural university may establish an Educational Technology Cell to study these issues, organising necessary inservice workshops and develop suitable implementation procedures.
- *Educational Technology Exposure to Teachers :* The teachers should be exposed to the basic principles of educational technology to enable them understand the intricacies of curriculum and course development and modification as well as to have an exposure to several teaching techniques.
- *Human Resource Development*
  - (i) Human resource development with special emphasis on advanced training of young scientists in new and advanced technologies, and
  - (ii) To avoid intellectual inbreeding among students and teachers.
- *Exchange of Teachers and Development Officers :* Exchange of teachers and development officers for better appreciation of academic and development function/mutual feedback.

Strengthening of Research and Development

- *Problems of Poor Segments :* Strengthening research in less developed backward areas and on the problems of poor segment of agricultural populations.
- *Energy Management :* Intensifying research on energy management to utilize non-conventional energy sources. Energy management in agriculture with special reference to use of animal power and other renewable resources like solar energy, wind energy etc.
- *Improved Implements :* Increasing research efforts on the development and use of improved implements for agricultural operations specially for achieving precision, efficiency and timeliness of operations and also for removing drudgery of farm operations carried out by farm women.
- Stressing home science research in the area of human nutrition
- Intensifying efforts on genetic improvement of livestock
- Intensification of research on non conventional feed resources
- Intensifying research on disease surveillance and monitoring

aphasising on research related to dairy development

heries

cial forestry and forestry management

st harvest technology with emphasis on storage, ocessing and marketing of agricultural produce

tensification of research on meat production and ocessing

onservation and planned exploitation of rmplasm resources of plants, animals and fish to oaden the genetic base for improvement

ventory of natural resources through remote nsing and other advanced techniques for their anned management and exploitation

creasing productivity and efficiency

ainfed Farming : Emphasising on rainfed farming hich will determine stability and sustainability of griculture in the country by developing more esources and technical might for doubling the roduction from dryland agriculture. Improving ry farming technology with emphasis on developng suitable crop weather relationships including ees and livestock as essential components under ifferent agro-climatic situations and on farm water onservation and management.

- *Multiple Resistance Varieties/Breeds :* Enhancing production through evolving new varieties/strains or breeds of crops and animals, incorporating multiple resistance against pest and diseases, salinity and alkalinity, drought, floods etc. Here emphasis would be on basic research and use of advanced biotechnologies to produce new types of crops/animal species suitable for achieving higher production.
- Biological nitrogen fixation for improving nutrient management system
- Appropriate technology for resource poor farmers
- Biotechnological innovations for animal production and health
- *Agriculture as a Business and Industry :* The time has come when we should look to agriculture as a business and industry to make further breakthrough. Linkages with various developments in agriculture, veterinary science, animal husbandry, fisheries etc., expose the weakness in the training of the students to serve in the emerging professional needs of these departments. Interaction with agencies involved in the supply of agricultural inputs and processing of farm produce indicates special technical competence they expect from students of agriculture universities.

New

Heterocylic Chemistry (ISE)

T.L.Gilchrist, *Reader in Organic Chemistry, University of Liverpool.*

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CONVOCATION

University Education in the Next Century

Eminent Physicist and former Minister of State for Defence, Dr. Raja Ramanna, delivered the Convocation Address at the convocation of the Faculty of Science as part of the seventy third convocation of the Banaras Hindu University. Dr. Ramanna said, "Giving injections and prescribing patent medicines is not medicine by itself. Building houses and just running factories is not engineering. While all this is necessary, years of training at public expense asks for higher aims. A proper education implies the capacity to be able to think for oneself, to innovate and do new things". Excerpts

Ours is a very resilient country and has lasted over time periods, when many a great civilisation has been reduced to ashes. We may have had many setbacks, but something irreversible has happened in recent times, which is of great significance; those who had never shared power in their lives have understood, for the first time, the meaning of power. They have not, however, come to a stage to fully appreciate how it can be used for their own benefit and that of the community. But that is the next step in our transformation. Those, who have become wealthy in the last few decades, do not want to share power with those who have not and it is these people who are creating confusion and spreading an atmosphere of calamity. This is exactly how it was at the end of the colonial period nearly fifty years ago and we are going through it all over again, but this time the actors are different.

The coming century is bound to see many changes and the newly educated generation will no longer be the same. They already know what they want, but are still unsure of things. This transition period represents that struggle. While political transformation will go on with its ups and downs, it is the education structure that leaves me with an uncertain feeling and a deep sense of non fulfilment. Wealth and power by themselves are not sufficient to create a sense of stability in our society, so necessary for a large federal set-up that makes our country. Its cultural integrity by itself is not sufficient to keep us together. It requires a deeper understanding of the hidden forces that bind us and this means a proper educational policy.

At the primary levels, we have not succeeded in solving the problem of illiteracy, whereas even countries like Burma, which has less resources than us, has made great progress, mainly because of the organisational support of the Buddhist Missions. Why then we may ask, it is not possible to organise something similar here? Are we too busy preparing our children for examinations that we have forgotten the meaning of education and its
impact on the surroundings
more person illiterate mean
my own education is of lesser
in an overall sense.

At the secondary levels
children are at the peak
absorption of knowledge, but
quire some guidance as to
meaning, we do not seem to
teachers to give them this supp
It is not that we do not have
teachers, but we have broken
self-confidence by pushing
into Governmental systems of
mum flexibility. This mad rus
their wards to get marks of 95
to get into medical or engineer
colleges is not the purpose of edu
tion. It has made us all insensiti
creativity and knowledge for its
sake. Giving injections and presc
ing patent medicines is not medi
by itself. Building houses and
running factories is not engineer
While all this is necessary, years
training at public expense asks
higher aims. A proper educat
implies the capacity to be able
think for oneself, to innovate and
new things. The very fact that
factories and hospitals become
soletė so quickly indicate this.

There are many good stude
who show by themselves a sense
creativity, but they do this in spi
our systems and not because
them. However, for most of th
this quality does not come natur
and require guidance. It is this
ter group that forms the bulk of
country and their uplift is the es
tial part of our secondary educat
al policy. How can a young per
survive, if he is so busy getting
missions for higher studies for w
he is not gifted and cramming
for every test and interview"
panic created by parents
teachers at this stage of a stude
life is similar to the feeling of be
made an out-caste in the past
are told that they can make

f they become engineers or
and the more immature
them feel that is the only
nd their life is irrelevant
se. In this way, a whole
ion of psychologically af-
students have been created.
se people who require a new
ll it by any name you like.
ation policies are necessary,
must be positive to help not
e people who have had no
ance in the past, but even
ho suffer from wrong educa-
olicies. For those who can-
ke the grade in the present
a feeling has been created
ir aim should be to become
and preferably an idle Babu
ch a B.A. degree is essential.
process, the B.A. degree has
lown-graded and the art of
nenship is getting depleted.
nters, Plumbers, Welders,
rs, etc., are leaving their
sions (in spite of the fact that
of them could even become
y), so that they are difficult to
ities and yet young people are
raged to become unemployed
rather than craftsmen in the
of social status. If anything,
l steno and typist is a disap-
g race. Modern technology is
g them more and more un-
ary and obsolete. Perhaps,
st place in th world, where
will be found in the world, will
North and South Blocks of

ile primary and secondary
tion problems are difficult of
on, because of the large num-
nvolved, the situation with
l to our universities is purely
our own making. The marked
oration of university educa-
n some of the well-known
is a part of a deliberate policy
re based on the wrong con-
n that if one gives university
tion to all, then all of them will
eful citizens with a higher
standard of life. This usefulness is a fallacy and is, in fact, one that has produced more unemployable persons than ever before. Of what use is a B.A. degree to a gifted carpenter, none except that his caste status is supposed to have gone up. It is on the basis of social status that the whole university system, as one of excellence, has been thrown away.

If one traces the educational system from olden days, e.g. the Gurukula system, the Buddhist universities and later our universities in the pre-independence era, the man with talent was a pre-requisite for admission and for doing research, money and salary was never the criteria, e.g. Prof. Raman's group at Calcutta in the twenties. In post-independent India, it was discovered that a university degree gives social status and, perhaps, a lucrative job. The number of colleges was increased by leaps and bounds, even as part of electioneering programmes. Quality did not matter and we have taken the poorer people for a ride. Much of these injustices come about because of the unimaginative way the advertisements for employment are given out in the newspapers. For almost all jobs, it says a B.A. is required. For all lectureships and above, a Ph.D. is required by statute and this has given rise to Ph.D. factories and the less said about quality the better, in the award of these degrees. This has made universities into factories of low quality products. I recall a meeting about the size of Visvabharati, Shantiniketan, where it was said that Gurudev Tagore was horrified to find that the university had nearly 50 people. He thought this was too much. Now I believe there are nearly 3000 people there. Should we not have to do something drastic to reduce mediocrity due to large numbers and make our universities great once again to attract gifted persons from all over the world ?

Since the title of my convocation address is "University Education in the next century", you may permit me to make a few suggestions for immediate modifications of our university system and, perhaps, say something about what has to be incorporated into the next century.

I would first make some attempts to enhance the importance of secondary education, so that the last year of school is almost equivalent to the present B.A. degree, as it is with the matriculation in the U.K. or graduation in the U.S.A. The schools should be expanded to have more diploma-level education, so that a wide variety of subjects can be chosen, many of which can be technically-oriented. In this category could be introduced subjects like Library Management, Office Management, Accountancy, etc.

At the University level, it is important to give greater freedom of choice in the selection of subjects to the candidates, as a wider range of studies gives greater possibilities for new and creative work. The older classifications of subjects have lost their validity.

In Universities, there is a feeling that the senior teachers should teach only the higher and advanced classes. This is a false proposition, as it is important that the most experienced of the teachers be in close touch with the new comers, so that the teachers are able to recognise talent at an early stage.

If much of our requirements are determined by those at matric and diploma-level education, the sizes of classes at University level could be reduced to say not more than 15 students, a number which allows for better teacher-student interaction. It is essential that the universities encourage self-study and to help students to find out fact through libraries and with the help of newer technologies, rather than use one's memory for storing such data.

The older bodies like the Senate, etc., have lost their meaning, having become adjuncts to political structures and new structures will have to be invented to make sure politicalisation of educational Institutions do not take place.

One must be prepared to face the fact that higher education is based on elitism. The objection to elitism in the past was that it would soon deteriorate to inbreeding, but if only the best persons are chosen from whatever community they belong, the standards will remain.

Our standards of excellence have deteriorated and, as a result, the quality of our industrial production has become variable, our research efforts have become too tortuous to be able to compete with the west and, at the technical level, the quality of workmanship is nowhere near international stuandards, because our secondary education has lost its aims. It directly manifests itself in poor quality maintenance, be it in electrical and mechanical systems, roads, telephones and even just bought equipment. With this kind of environment, we will not be able to survive into the next century. The general cleanliness of an industrial city is directly connected with its excellence and we just have to look around to see how far away we are from these goals.

I have probably over stressed small issues in this address but I may be forgiven if I see in the signs of overall deterioration connection with these small issues. Order is missing every where; cleanliness is disappearing, a fellow-feeling for those weaker than yourself has disappeared. People defect from political parties without even a second thought. All this means we have lost even elementary considerations which are asso with well-trained boy scouts. U fortunately, the fault lies squar with our educational processes.

I would not have dealt with all faults on a day the Faculty of Scien is celebrating its annual function have said all this only because o scientific effort is directly connec with our behaviour. Wherever the is tradition and order, there h been good scientific work, co parable to international standar e.g. The Tata Institute of Fu damental Research, the Indian In stitute of Science, Bhabha Atom Research Centre, etc. The mome other considerations come, th deterioration becomes almost irr versible. The Banaras Hin University is the one hope for th University system to prevail. Fro all that I hear, it is well on its way face the next century with confiden and modernity. In its progress I ta great pleasure and I wish it succ in all its future transformations.

Latest Addition to
THE QUESTION BANK BOOK SERIES
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The latest addition to the Question Bank Book Series at the undergraduate level covers the important fiel Agronomy. Comprising 2664 questions/items at the first degree level, the bank embraces all the major aspects agronomy namely Soil and Soil Conservation, Cultivation and Harvesting, Soil Reelamation and Drain Irrigation and Water Conservation, Fertilizer and Soil Conditions and Climate.

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Workshop on Water Pollution Control

A one day-Workshop on Water llution Control : Problems and ospects was organised at the apar Institute of Engineering and chnology (TIET), Patiala. The jective of the workshop was to ng together the various agencies nnected with the water pollution ntrol on common platform for scussions and interaction. Dr. R.Gowariker, Former Director, entral Scientific Instruments Organisation, Chandigarh was the ief guest and Er. S.S. Kalsi, Chairan, Punjab Pollution Control oard was the Keynote Speaker. of. (Dr.) T.R. Anantharaman, irector, T.I.E.T., Patiala, presided er the inaugural function.

Dr. S.R. Gowariker in his address pointed out the exploitation of e resources of the developing ountries by the developed untries.

Er. S.S. Kalsi highlighted the eps taken by Punjab Pollution ontrol Board for the prevention nd control of water pollution in unjab State.

Professor (Dr.) T.R. Ananharaman, in his presidential emarks stressed the commitment f Thapar Group of Industries owards the control of pollution and eferred to the message of Shri L.M. hapar, President of the Institute, or the workshop.

In the two Technical Sessions, peakers represented the Industry, unjab Pollution Control Board, Consultancy Firms, Teaching and Research Organisations. During the course of their discussions they highlighted the steps taken by the industry in general for control of water pollution. They stressed the necessity of running the waste water treatment plants at the optimal efficiency, which could only be achieved if specific trained manpower was available in the industry. Since the problems of water pollution were collosal and grave, it was suggested that a holistic approach had to be adopted to tackle these in all the numerous aspects.

The delegates were taken round the Environmental Engineering Research Centre where the facilities (infrastructure) created in the field of water pollution control were shown to them. The Resperimetric B.O.D. System developed and patented by Dr. R.P. Garg was at display in the centre.

CAMPUS NEWS

Advanced Course in Agrochemicals

Delhi University is contemplating starting a new advanced course in agrochemicals and pest control from the coming academic session which will help in bringing science to the grassroots.

Prof. Upendra Baxi, Vice-Chancellor said the course had been introduced at the graduation level in just one college of Delhi University (Shradhanand College, Narela) some five years ago and had elicited tremendous response.

Prof. Baxi said the proposed advanced course did not exist in any Indian University in the form it was being visualised. Various disciplines like Physics, Chemistry, Agronomy, Entomology, Zoology will be amalgamated in the proposed course.

A blueprint of this course was currently at scrutiny stage with a 12-member committee, comprising experts from faculty of science, departments of Physics, Chemistry, Biology, Indian Council of Agricultural Research and Indian Agricultural Research Institute (IARI).

Prof. Baxi said the course would accommodate 20 students from all over the country. The university, he said, could also entertain foreign students who came to India as part of cultural exchange programme or some other bilateral arrangement.

Prof. Baxi said besides, Delhi University would also introduce from the coming academic session a postgraduate diploma course on management of early child care and set up a new faculty of commerce for affiliation of different departments to the proposed faculty.

New Courses at Punjabi Varsity

Punjabi University proposes to start some new courses from the next academic session. These include M.A. (religious studies), a certificate course in statistics, diploma in microbial and food technology and diploma in computer applications. The Academic Council of the University is reported to have taken a decision in this regard at its meeting held recently. A diploma course in pharmacy at Guru Kashi College, Damdama Sahib, diploma in computer applications at Guru Kashi Institute of Advanced Studies, Talwandi Sabo, and certificate courses in Urdu and Persian at Nawab Sher Khan Institute of Advanced Studies, Malerkotla are also proposed to be started. The council also gave its clearance to start a one-year diploma course in remote sensing, subject to the availability of 100 per cent grant from the government.

The council agreed to the proposal of setting up a rural institute of engineering and technology at Fatehgarh Sahib for which the SGPC has already allocated 100 acres of land. Earlier, the Nankana Sahib Educational Trust, Ludhiana, had requested the university to grant affiliation to the institute and start the classes at Guru Nanak Engineering College, Ludhiana for the first year courses in electrical, computer and mechanical engineering from the 1991-92 session.

PG Diploma in Child Care

The Faculty of Science, Delhi Univeristy proposes to start a Postgraduate diploma course in "Management of Early Child Care" from the academic session 1991-92. The duration of the course shall be one academic year. Persons holding Bachelor's degree in Home Science with a minimum of 55 per cent aggregate are eligible. The entrance examination will be conducted for the admission.

The Academic Council which met recently also accepted the proposal in principle to create a new Faculty of Commerce and asked the Department of Commerce to prepare a comprehensive proposal.

The proposal for the creation of the Department of Financial Studies in the south campus to run the existing course of Master of Financial Control was also accepted by the Council.

Vedic Studies in Modern India

The School of Vedic Studies, Rabindra Bharati University, Calcutta, recently organised a two-day Seminar on 'Relevance and Direction of Vedic Studies in Modern India'. Dr. Pabitra Sarkar, Vice-Chancellor, inaugurated the Seminar. The keynote address was delivered by Dr. Samiran Ch. Chakrabarti, Director of the School of Vedic Studies.

The speakers at the seminar which included eminent scientists, historians, linguistics and vedic scholars explored the scope of vedic Studies in different aspects from different viewpoints and suggested that a thoroughly historical and scientific attitude must be adopted to bring out the enormous pool of data from, the Vedas to the benefit of studies in history of human civilization and different disciplines of learning viz, Cultural Anthropology, Folk Culture, Subaltern Studies, Comparative Mythology, Stylistics, Astronomy, Mathematics and so on. Some projects viz. preparing a Grhyakosa, editing manuscripts hitherto unpublished etc. were also suggested by them to be taken up by the School in future.

News from Agril. Universities

Sunflower Field Day

Dr. Khem Singh Gill, Vice-Chancellor of the Punjab Agricultural University, while inaugurating a sunflower field day in Ferozepur district, urged the farmers to step up oilseed production to save Rs. 1200 crore which the country spent annually to import edible oils from abroad. He emphasised the cultivation of sunflower which was an important oilseed crop. He told that MSFH-8, a hybrid variety yielded 8 quintals per acre. Its yield could be further stepped up by maintaining adequate plant population in the field and by adopting effective control measure against certain insect/pests particularly *Heliothis* (American Sundi) which had earlier caused considerable damage to cotton. Dr. Gill disclosed that PAU designed sunflower combine to facilitate threshing operation, was now being manufactured on commercial scale. The Vice-Chancellor cautioned the farmers against indiscriminate use of insecticides/pesticides which were injurious to human and animal health and also caused environmental pollution.

Dr. G.S. Gill, Director of Extension Education of the PAU said that on account of intensive agriculture, the soils had become deficient of micro-nutrients. He, therefore, advised the farmers to get their soil and water tested and grow only those crops which suited their soils. Dr. Gill disclosed that a Krishi Vigyan Kendra had started functioning in Ferozepur district where training courses in dairying, poultry farming, bee-keeping, fruit and vegetable growing for young farmers would be held regularly. Other experts educated the farmers about the cultivation and care of sunflower and other kharif crops.

Pulses Improvement Project

A meeting of the All India Co-ordinated Pulse Improvement Project was recently organised at Varanasi under the auspices of the Department of Genetics & Plant Breeding, Institute of Agricultural Sciences, Banaras Hindu University (BHU)

aking on the occasion the Direc-
of the Directorate of Pulses Re-
rch,- Kanpur, Dr. S. Lal and
ect Director, Dr. J. N. Sachan
that for increasing the produc-
of pulses, the Government of
a had started several program-
with the technological back up
vided by ICAR. These
grammes include Micro Mission
Pulses Production Technology,
ntline demonstration on Pulses,
entive for breeder seed produc-
& hybind pigeon-pea etc.

rof. C.S. Jha, Vice-Chancellor,
U, who inaugurated the meeting
that it was interesting to note
new thinking the world over was
vegetarian protein which had
e weight for life system. Prof.
called upon agricultural scien-
s to think how to widen
onomical practices for pulses
only to concentrate in better
duction of seeds and its distribu-
. He lamented that as last resort
farmers opted for traditional
ning. He also regretted that
ugh emphasis was not placed on
vesting and post harvesting tech-
ogies, except for rice.

rof. Jha also pointed out that
rketing of cereals and pulses
e flawed and it was consumers
suffered ultimately.

rof. Jha made a fervent appeal
scientist community for
ilability at low prices and atleast
make per capita protein
ilability of 104 gm as per WHO
ndard.

Over 200 agricultural geneticists
m all over the country par-
pated in the three day meeting
nvened to chalk out action
grammes for increased Kharif
ses cultivation in the country to
et the target of VIIIth Five year
n.

News from UGC

Countrywide Classroom Programme

Between 1st July to 7th July, 1991 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

1.7.91

"An Introduction to Architecture"

"Contract Act - III"

"Seed Processing"

2.7.1991

"Bromine - Element from the Sea"

"Change - The Interdisciplinary Way"

"Vitamins : The protective Elements-I"

3.7.91

"Solar Research - V"

"Destiny's People : Stories of South Carolina"

"Principles of Biosystematics-IV"

4.7.91

"Introduction to Computers"

"Texture of literature-I Semiotics"

5.7.91

"Dawn Syndrome"

"Urban Survival-Women Workers in the Unorganised Sector"

"Learning from Nature-III"

6.7.91

"Youth and Frustration"

"Non-Industrial Glazed Pottery and its development in India-I"

"Wiring Household Plugs"

7.7.91

No Telecast

IInd Transmission

4.00 p.m. to 5.00 p.m.

1.7.91

"History of Inventions - II"

"Interpersonal Communication - I"

"Recycling : Technology of the Future"

2.7.91

"Journalism As a Profession - A Practitioners View"

"Hour USA-The health Century : The fight against infectious Diseases - II"

3.7.91

"Cyclone Resistant Rural houses"

"Jageshwar Shrines - I"

"DNA Choreography"

4.7.91

"Handle With Care"

"Shadown puppetry in Kerala"

"Towards Better Spoken English-III Consonants"

5.7.91

"A lecture by Prof. Philip Morrison - II"

"Getting Along With Others"

Conserving America - Champions of Wild Life - II"

6.7.91

"Hnads Behind Textile Processing"
"Sailing in the Air-Gliding"
"Senses of Time"

7.7.91

No Telecast

COHSSIP to Cover 42 More Colleges

42 new colleges in the country have been invited by the University Grants Commission (UGC) to participate in the College Humanities and Social Sciences Improvement Programme (COHSSIP) with a view to bring about qualitative improvement in teaching of humanities and social science subjects. With this, the total number of colleges participating in the scheme of COHSSIP will now be 631. Of these, 588 are arts colleges and 43 teachers training colleges.

Selected on the basis of determinants like staff, staff-student ratio, books and journals, examination results and qualitative programmes, each colleges will be offered financial assistance of Rs. three lakhs for the first phase of the scheme extending upto three years.

Initiated in 1974-75, the COHSSIP scheme is intended to provide opportunities to the colleges affiliated to various universities to make new experiments for qualitative improvement in teaching, learning, curricula and examinations at the undergraduate level in humanities and social science subjects particularly through adoption of new teaching methods, extension of library services, introduction of special courses, inter-disciplinary programmes, adoption of measures of examination reforms, remedial teaching and field and project work.

News from Abroad

Joint Lectureship Programme

The Lectureship Programme initiated in 1987 by the International Council of Scientific Unions (ICSU) and the Third World Academy of Sciences (TWAS) was joined in 1989 by two partners; the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Commonwealth Science Council (CSC).

Under this Programme eminent scientists in all fields of science and technology from all parts of the world are invited to lecture and hold discussions with scientists in developing countries.

The objective of the Programme is to provide scientists and scientific institutions in developing countries with the opportunity to establish and enhance collaboration with colleagues from other countries who have made significant contributions to the advancement of science.

A Roster of lecturers has been compiled containing names of eminent scientists who have been put forward by members of ICSU, TWAS, UNESCO and the CSC. Lecturers listed on this Roster have indicated titles of lectures in specialized topic(s) related to their field of research as well as lecturers of general interest. The Roster is periodically up-dated and distributed to relevant bodies in developing countries.

The travel expenses of lecturers to host countries will be borne under the Programme, while institutions in these countries will be expected to cover all local expenses as well as to make local arrangements. Normally there will be one lectureship per country per year. Scientists already on the Roster who are planning to visit a developing country for other purposes not strictly related to the Lectureship Programme may be requested to give a lecture of no financial cost to the Programme.

About 25 lectureship visits can be sponsored per year. Institutions in developing countries wishing to invite a lecturer should submit their request on the prescribed form to meet the following deadlines:

- by 30 June for lectures to take place between January and June of the following year.
- by 31 December for lectures to take place between July and December of the following year.

The requests should be duly endorsed by an ICSU or a TWAS Member, a National Academy or Research Council, a UNESCO Regional Office for Science and Technology or a CSC National Member.

Decisions will be made shortly after each deadline.

All enquiries, including those for copies of the Roster, the request form and addresses of endorsing organizations, as well as invitations for lecturers should be sent to: The Third World Academy of Sciences (TWAS), C/o International Centre for Theoretical Physics (ICTP), P.O. Box 586, 34136 Trieste, Italy

TWAS Research Grants and Spare Parts Programmes

One of the principal objectives of

e Third World Academy of Scien- s is to help in providing promising ientists in the Third World with e conditions necessary for the ad- ncement of their research work.

In pursuance of this aim TWAS fers:

- Research Grants for scientists in developing countries to assist in carrying out research work in the scientists' home country;
- Spare Parts for scientific equipment in developing countries;

The Academy awards research ants for high-level and promising ientific research projects to be rried out in developing countries the individual scientists named. he purpose of these grants is to einforce and promote basic and ap- lied scientific research in the Third Vorld, and to strengthen the en- ogenous capacity in science.

Since 1986 the Academy has warded nearly 500 Research rants to deserving scientists from 5 Third World countries, for a total xpenditure of approximately US$ 2 illion.

At present, TWAS Research rants provide support for research rojects in the following fields of cience.

Experimental Physics,Pure and pplied Mathematics, Pure and pplied Chemistry, Molecular iology/Biochemistry

A grant may be used to purchase cientific apparatus, materials, spe- ialized literature and other items eeded for the project which are not btainable locally. The grant does ot cover the salary of the grantee nd does not cover international ravel or study leave.

Grants for projects in Mathematics normally cover a period of one year but may cover up to three years, for an amount of US$ 2,000-5,000 per year. These grant are normally intended to cover the cost of scientific literature and microcomputers essential for the project. A small portion of the grant may be used for local travel and for supporting one or two graduate students directly associated with the research project.

Grants in Experimental Physics, Pure and Applied Chemistry and Molecular Biology/Biochemistry amount to a maximum of US$5,000 and are normally provided for one year. Requests for additional grants to allow for an extension of a successful project will be considered by the Academy. These grants are normally intended to cover the cost of scientific equipment, expendable supplies and other essential items.

Applicants should be nationals of developing countries with an advanced academic degree and some research experience, and hold permanent positions at universities or research institutes in developing countries.

Applications should be submitted in English on the Third World Academy of Sciences' form entitled "TWAS Research Grants: Application Form". There is no deadline for the presentation of applications.

A written agreement is made between the Academy, the grantee and his institute. The institute undertakes to administer the grant according to the agreement and to provide laboratory space, salaries and other facilities necessary for the project. Equipment, material and literature provided for the project through the TWAS Research Grant remains the property of the institute after the project is completed.

The grantee is required to submit interim reports as specified in the agreement,as well as a final report within one month of the completion of the project. While the Academy does not claim rights to any publications or inventions arising out of the project, the grantee must keep the Academy properly informed about such matters, as well as of any applications of the result obtained. Any research result obtained under a TWAS grant must be made freely available without restrictions.

The aim of the Scheme is to assist the development of experimental research in Third World countries by facilitating the acquisition of badly-needed spares and replacement parts for scientific equipment. The scheme covers the cost of small items of spare parts for scientific equipment which cannot be obtained or manufactured locally. The cost for a single request should not exceed US$500 including insurance and freight charges. Special consideration will be given to requests for smaller amounts.

Applicants should first contact the suppliers and obtain a proforma invoice (including cost, insurance and freight charges) for the items they require. A TWAS request form should then be completed and submitted to the Office of the Executive Secretary. The proforma invoice from the supplier must be enclosed with the form.

Further information and application forms may be obtained from: TWAS Research Grants and Spare Parts Programmes. The Third World Academy of Sciences (TWAS), c/o International Centre for Theoretical Physics (ICTP), P.O. Box 586 - 34136 Trieste - Italy.

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary Officer to be Contacted
July 21-26, 1991	Seventh International Meeting of University Administrators	Themes to be discussed are: (i) Standards of Professionalism in University Administration; (ii) International Cooperation; and (iii) The Entrepreneurial University	Conference of Registrars and Secretaries and Conference of University Administrators of the United Kingdom	Dr. P.C. Verschoor, Chairman, Organising Committee, Congress Bureau, University of Twent P.O. Box 21 7500 AE Enschede, The Netherlands
August 19-30, 1991	International Course on Planning and Design of Pumping Works	To provide fundamental knowledge on pumping systems and comprehensive approach to planning and design of pumping works	Asian Institute of Technology, Bangkok, Thailand	Mr. Wiboon Boonyatharokul, Program Specialist, Continuing Education Center, Asian Institute of Technology, GPO Box 2754 Bangkok-10501 Thailand
Sept. 16-20, 1991	Regional Symposium on Educational Testing	Theme : Reforms and enhancements in educational testing system, test contents and formats in a country (or region)	The National Education Examination Authority (NEEA), People's Republic of China	Mr. Yang, Xuewai, Director, National Education Examinations Authority (NEEA), State Education Commission, 30 Yu Quan Road, Beijing 100039, The People's Republic of China
Sept. 17-18, 1991	Fourth Annual Conference of the Asian Association of Open Universities	To explore the need, desirability,practicability and relevance of face to face components in Distance Education	The Open University of Sri Lanka, Colombo, Sri Lanka	Ms. C Suriyapperuma, Organising Secretary, AAOU Conference, Open University, Box 21, Nugegoda, Sri Lanka
December 9-26, 1991	Winter School on use of Statistical Software	To introduce college and university teachers to computer-oriented statistical methods and to train them in the use of statistical software packages.	Indian Statistical Institute, Calcutta	The Course Director, Winter School on use of Statistical Software, Computer Science Unit, Indian Statistical Institute 203, Barrackpore Trunk Road, Calcutta-700 035
December 14-16, 1991	International Conference on Man & Environment	To discuss issues concerning the future of man and preservation of the unique planet earth	Motilal Nehru Regional Engineering College, Allahabad	Dr. R.K. Srivastava, Organising Secretary ICOMEN - 91, Department of Civil Engineering, Motilal Nehru Regional Engineering College, Allahabad [illegible]

cience and Technology Information Systems and Centres

Janak Raj*

Gupta, B.M. and Nathan, S.S., Eds. Handbook of Libraries, Archives and Information Centres in India: vol. 7 Science and Technology Information Systems and Centres. Delhi, Aditya Prakashan, 1990. ix, 289p. Rs. 325.00

)ne can not help but praise. I. Gupta, a wonderful Young rarian who took up the venture ringing out a 13 volume series : *idbook of Libraries, Archives and rmation Centres in India.* He already brought out 9 volumes. first five volumes were publish- by him under the name of the olisher: Information Industry olications, Delhi followed by the h one under the name : Informa- Resource Centre, Delhi. From 7th volume onwards he has sed on the publication work of series to M/s Aditya Prakashan, lhi. All the volumes put together a mine of information; very use- to the practicing Librarians, In- rmation Scientists and the chers of Library and Information ence. It is in a way a big contribu- n to the Indian Librarianship.

The seventh volume is edited by M. Gupta and S.S. Nathan, which ntains 36 papers out of which are acknowledged reproductions m other sources. The authen- city of the information in- ded in the papers is beyond ubt because all have been con- buted by the persons who her head the respective Informa- n System/Centre or are working ientists in the Information entre itself. Mostly the papers e descriptive the papers are scriptive and least critical except e first one which besides giving lvantages of the adopted the grid reference system, discusses its disadvantages as well.

Many of the information systems described were in their formative stage and had not become fully operational till the time the papers were written. To cite by way of illustration only, the authors explicitly confirm to this effect in Chapters: 7 (p.47), 9(p.93), and 14 (p.54). This situation will obviously necessitate an early revision of the volume.

All the same, the information given therein is very rich and sufficiently enough about centres of information, databases, network etc. for those who intend to start an information system, it provides sufficient clues as to how to go about step by step, such as deciding a suitable information classification, developing software, choosing appropriate computer configuration and database preparation etc. For instance, the first paper (pp. 1-13) is an appropriate example in this regard.

Though the information in the volume is comprehensive, yet there are some gaps. Till the publication of Directory of Scientific Institutions in India 1989 by INSDOC, there were 22 central research institutes, 4 national laboratories, 6 regional research laboratories, 6 research centres and 2 research stations under the umbrella of the CSIR. Out of them only 5 institutes, 2 national laboratories, 1 regional laboratory alone have been represented in the volume. To cite an example non-representation of the services of the library of National Aeronautical Laboratory, Bangalore and the National Environmental Engineering Research Institute, (NEERI), Nagpur are glaring omissions.

While the volume amply represents information systems/centres on physical, biological and agricultural sciences, engineering subjects are less represented, except by two of them i.e. National Information Centre for Machine Tools and Production Engineering (paper 13), and Water and Power Information System (paper 24).

If "Publications and Information Directorate" (paper 10) could find room, then the information services of, engineering institutes, e.g., Central Road Research Institute, New Delhi, Central Building Research Institute, Roorkee, National Building Organisation, New Delhi should also have been accomodated.

Science and technology being the subject of volume 7, the District Information of the National Informatics Centre (NIC) (paper 4) looks completely out of place here as that is an information system basically meant for administrators and planners in the government. It is a Management Information System (MIS) to "exchange information between the centre and 'states, between the states and their districts and among ministries/departments as well as between them and the public". Paper seven on NICNET is again an extension and an added essential facility of the NIC (MIS) to provide data communication capability consisting of a satellite-based communication system.

Printing mistakes in simple words, such as, available, 'programme', 'recent' and 'data' on pages 3, 6, 18 and 139 could have been avoided by a little serious care.

The above criticism is in no way to undermine the importance of the volume, but it has been made simply in a constructive spirit with the hope that improvement will be made in the future editions.

The volume is a must for all the libraries devoted to science and technology, students and teachers of Library and Information Science.

Jniversity Librarian, hapar Institute of Engineering and echnology (Deemed University), atiala-147 001, & Former Vice President, Indian Library Association.

Communication

The B.Ed. Programme

Sir,

Sound pre-service education of teachers is the most vital requirement of quality education. Only quality teachers can impart quality education.

It must, however, be understood at once that in a professional training programme, it is the depth of proper orientation and personality development that is essential; In such a situation a mere acquisition of a university qualification loses its present impact. Not that it is not important.

It is, therefore, unfortunate that in our existing teacher training institutions the sole aim seems to be examination scores.

Thought has constantly been given to this problem by the various Government and Non-Government agencies. The main concern seems to be that the present duration especially at the B.Ed. stage (a session of nine month) is most insufficient.

The U.G.C. some time back appointed a Committee to study the problem of Teacher Education (M.Ed. & B.Ed.) and that their report has since been published and studied.

According to the report, the committee has recommended that the duration of the courses be raised to two years. I wonder if under the present circumstances, it will be worthwhile and even possible to implement this recommendation. However, there is no denying the fact that the B.Ed. Course does need more working days and also longer working hours, so that the impact is deeper.

For this purpose, however, there seems to be no need to increase the duration to two years. Even during the present conditions something can be done.

The U.G.C. has already strongly recommended that every college and university must work for atleast two hundred days in a year excluding the days for examinations and preparatory holidays. Presently the colleges work hardly for 120 days and that too if there are no strikes etc. There are so many holidays in addition to long vacations and the Dussehra and X-Mas breaks.

When I was working as Principal in the Colleges of Education at Chandigarh & Patiala, I persuaded the authorities to reduce the long vacations considerably as well as the two breaks in the colleges of education. Further we used to work for longer hours every day. We also made our colleges functionally residential for all. In this way we could perhaps do better justice to teacher education.

It is common knowledge that in the colleges of education, a new batch comes every year and as such the long vacations have no relevance and can very well be done away with. In this way the admissions could be made in later May end/or early June and examinations could be held towards the middle of next May. Further the daily working hours could also be increased. We should also move towards making colleges of education residential.

If this is done our purpose will be served and there will be no need to implement the U.G.C. Committee recommendation.

It is also necessary that mostly in-service teachers are admitted and the number of freshers reduced considerably. This will also indirectly reduce the present wastage of trained personnel.

I am writing to suggest that this and other allied questions may be discussed by the various university bodies in the country dealing with Teacher Education, as also by the State Deptts. of Education.

I know that there will be some protest from the faculty of the various colleges of education but the governments and the universities can easily resist such pressures and declare the colleges of education as non-vacation establishments.

Another advantage will be that with reduced admissions, sub-standard colleges may automatically be phased out. These admit freshers indiscriminately and carry on routine minimum work which helps the students mostly in securing a pass at the university examinations.

We need a variety of programmes to make the orientation deeper. Every college could draw its own programme without waiting for any instructions from any outside agencies.

The N.C.E.R.T. through its Deptt. of Teacher Education should also help individual colleges in drawing their programmes and raising their standards instead of holding occasional academic seminars and bringing out highly academic reports containing fancy vocabulary.

I also strongly feel that the University Boards of Education should also move beyond okying the routine syllabi in a hurried manner and appointing examiners. They should suggest useful programmes to make teacher education more effective.

The University Deptts. of Education which boast of having top level educationists could also come down from their high academic pedestals and help individual institutions in improving their programmes in order to make teacher education more effective!

Sincerely,

V.S. Mathur
1247/1, Sector 43B
Chandigarh

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Aggarwal, J C. **Survey of educational documents in the world ince 1983.** Delhi, Doaba House, 1991. xiii,347p. (Doaba World Education Series ; 7).

Agrawal, A N and others. **India economic information yearbook 990-91.** Ed 5. New Delhi, National Pub., 1991. xxii,328p.

Association of Indian Universities, New Delhi. **Question Bank : Agronomy.** New Delhi, Author, 1991. xx,347p.

ATLAS OF India. Oxford, Oxford Univ. Press, 1990. vi,185p.

Grewal, Avinash. **Hypothesis making and testing abilities.** Agra, National Psy. Corp., 1988. xvi,259p.

Gupta, S P. **Indian science in the eighties and after.** Delhi, Ajanta Pub, 1990. 120p.

Husen, Torsten, Ed. **International encyclopedia of education. Supplementary volume V2.** London, Pergamon, 1990. xxiv,795p.

Inayat Khan, Ed. **Distance education : Some readings.** Delhi, Amar Prakashan, 1991. 206p.

India. University Grants Commission. **Report of the UGC committee : Towards new educational management.** New Delhi, Auhor, 1990. xii,384p.

INDIA WHO's who 1991. Delhi,INFA Pub., 1991.

Kapur, B D. **Building a defence technology base.** New Delhi, Lancer Intl., 1990. viii,198p.

Kapur, J N. **Towards excellence in higher education.** New Delhi, Mathematical Sciences Trust Society, 1991. viii,272p.

Khanna, C P. **Eternal education.** Delhi, Doaba House, 1990. ix,99p.

Lalit Kishore. **Value-oriented education : Foundations and frontiers : World overview.** Delhi, Doaba House, 1990. 115p. (Doaba World Education Series ; 2).

LIMCA BOOK of records 1991 Bombay, Bisleri Beverages Ltd., 1991. 237p.

Manzoor Ahmad. **Islamic education : Redefinition of aims and methodology.** New Delhi, Qazi Pub.,1990. xii,136p.

Mascarenhas, M. **Examinations : An informative update.** Delhi, Doaba House, 1991. viii,240p.

Mishra, Madhu S, Ed. **Bibliography on management of rural development. V1.** Calcutta, Indian Institute of Management, 1983. xii,320p.

——— **Directory of organisations in rural development. V2.** Calcutta, Indian Institute of Management, 1986. x,425 to 845p.

——— **Rural development - Action and management.** Calcutta, Indian Institute of Management, 1981. xx,284p.

——— **Rural development in Eastern & North Eastern India.** Calcutta, Indian Institute of Management, 1988. xii,520p.

Ramesh, K. **Human relations in an Indian university : An organizational perspective.** Delhi, Ajanta Pub., 1991. ix,147p.

Rao, K N and Ahuwalia, S S. **Mandal report X-rayed.** New Delhi, Eastern Books, 1990. 248p.

Reilly, T and others, Ed. **Physiology of sports.** London, Chapman and Hall, 1990. xiii,495p.

Singha, H S. **School education in India : Contemporary issues and trends.** New Delhi, Sterling Pub., 1991. v,194p.

Thapar, Raj. **All these years : A memoir.** New Delhi, Seminar Pub., 1991. 472p.

Thimmaiah, G and others. **Vocational education : Problems & prospects : A case study of Karnataka state.** Bombay, Himalaya Pub., 1990. 82p.

Thomas, R Murray, Ed. **Encyclopedia of human development and education theory, research and studies.** Oxford, Pergamon Press, 1990. xvi,519p.

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1. Barua, Chandra Prova. **Modern Indian aesthetic thought.** Gauhati. Dr Nilima Sharma, Reader, Department of Philosophy, Gauhati University, Guwahati.

Language & Literature

1. Kamatchi, A. **Temporals in Tamil, Malayalam, Kannada and Telugu.** Kerala. Dr A P Andrewskutty, Reader, Department of Linguistics, University of Kerala, Kariavattom.

2. Suvarchala, B. **Central Dravidian comparative morphology.** Osmania.

English

1. Bhadwal, Gandharb Singh. **Ted Hughes: A critical study.** Jamia. Prof A A Siddiqui, Department of English, Jamia Millia Islamia, New Delhi.

2. Bhargava, Pratibha Shalini. **The concept of self in the novels of Chinua Achebe.** IIT Delhi. Prof M P Jain, Department of Humanities and Social Sciences, Indian Institute of Technology, New Delhi.

3. Dutt, Maya. **The archetypal woman in D H Lawrence's longer fiction.** Kerala. Dr K Ayyappa Panikar, Prof and Head (Retd), Institute of English, University of Kerala, Thiruvananthapuram.

4. Tewary, Neelima. **Thomas Hardy as a poet.** Durgvati. Dr (Smt) S Nair, Mankuwar Bai Arts and Commerce College, Jabalpur.

5. Usha, V T. **Ted Hughes: Study of the human and non-human characters in his poetry.** Kerala. Dr M Ayyappa Paniker, Prof and Head (Retd), Institute of English, University of Kerala, Thiruvananthapuram.

German

1. Sasikala, R. **Autobiographical elements in the novels of Hans Fallada.** Kerala. Dr Bernard Fenn, Prof (Retd), Department of German, University of Kerala, Thiruvananthapuram.

Sanskrit

1. Arya, Rajvanti. **Ved samhitayon tatha Manusmriti ke rajdharmon ka tulnatmak adhyayan.** Gurukula. Dr Ved Prakash Shastri, Reader, Department of Sanskrit, Gurukula Kangri Vishwavidyalaya, Hardwar.

2. Bahuguna, Rajeshwari. **Sidhichandramani krit Kavya Prakash Khandan: Ek vivechan.** Gurukula. Dr Nigam Sharma, Department of Sanskrit, Gurukula Kangri Vishwavidyalaya, Hardwar

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6. Lalithakumari, C. **Laghudharma Prakasika: A study.** Kerala. Dr N P Unni, Prof and Head, Department of Sanskrit, University of Kerala, Kariavattom.

7. Mandal, Suchitra. **Kuntaka: A critical study.** Calcutta.

8. Mishra, Munnalal. **Sanskrit roopkon mein Nandi tatha Bharat vakya.** HS Gour. Dr Bal Shastri, Department of Sanskrit, Dr Hari Singh Gour Vishwavidyalaya, Sagar.

9. Narendra Kumar. **Dharamsutriya achar samhita.** Gurukula. Prof Ved Pdrakash Shastri, Reader, Department of Sanskrit, Gurukula Kangri Vishwavidylaya, Sagar.

10. Sasikumar, C S. **A critical edition and study of the Kavyaprakasottjini of Vedantacharya.** Kerala. Dr P Visalakshy, Lecturer, Oriental Research Institute and Manuscripts Library, University of Kerala, Kariavattom.

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Marathi

1. Paranjpe, Jayant Bhanudas. **Grace ani durbodhata: Shri N Phendse hastalikhit and pariprakrne.** D.Litt. Nagpur.

Arabic

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Kannada

1. Naik, D B. **Uttar Kdarnatakade lambani janapad sahithya.** Gulbarga. Dr P K Khandoba, Prof, Department of Kannada, Postgraduate Centre, K B Nagar, Sandur.

Telugu

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Geography

1. Basu, Ishita Kamalini. **Jute in India: A geo-economic analysis.** Calcutta.

2. Bora, Ashok Kumar. **Jia Bharali River of Assam: A study in fluvial geomorphology.** Gauhati. Dr D C Goswami, Reader, Department of Geography, Gauhati University, Guwahati.

History

1. Alvarez, Sergio Meliton Carrasco. **Brahamnical Monastic institutions in early mediaeval North India: Studies in their docotorinal and sectarian background, patronage and spatial distribution.** JNU. Prof B D Chattopadhyaya, Centre for Historical Studies, Jawaharlal Nehru University, New Delhi.

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GULBARGA-585 106

NOTIFICATION

Applications in the prescribed form in IGHT SETS are invited from qualified can- idates of Indian Nationality for the follow- ng posts in the Gulbarga University. The pplications together with necessary docu- nents should reach the Registrar, Gulbarga University, Gulbarga - 585 106 by Registered ost-Acknowledgment Due on or before **1st uly, 1991**.

CANDIDATES WHO HAVE AL- EADY APPLIED FOR THE POSTS IN ESPONSE TO THE EARLIER OTIFICATION, SHOULD APPLY FRESH

UNIVERSITY DEPARTMENTS

PROFESSORS IN – Urdu, Economics, Botany, Law, Education, Political Science (all single posts), English (SC-backlog).

READERS IN – Urdu, Social Work, Library & Information Science, Botany, Sanskrit (all single posts) Kannada (Gr. B), English - 2 (1-ST backlog, 1-GM), Analytical Chemistry (ST), Biochemistry with specialisation in Biotechnology (GM), Inorganic Chemistry (Gr. A.), Organic Chemistry (Gr. B), Physical Chemistry -2 (1-GM. 1-SC), Physics (GM), Mathematics (Gr. B), Microbiology (SC), Political Science (SC), Mineral Processing (Single Post)

LECTURERS IN – Kannada-4 (2-GM, 1-Gr. C.,1-Gr. D), English - 2 (1-GM, 1-Gr. A), Hindi (ST), Marathi (SC), Social Work (GM), History (SC), Library & Information Science (ST backlog), Applied Electronics (SC), Physics-2 (1-ST backlog, 1-Gr.B.), Mathematics -4(1-GM, 1-Gr.A, 1-Gr.B., 1-SC), Analytical Chemistry (Gr. A), Statistics (GM), Mechanical Engineering (SC backlog), Electrical Engineering (ST backlog), Chemical Engineering (GM), Drilling (Gr. A), Metallurgy (Gr. B.), Applied Geo-Physics (SC), Mathematics (GM).

LIBRARIAN (Single post)

ALIFICATIONS

The General Qualifications prescribed r the above posts are as per the U.G.C. rms.

ROFESSORS (Scale Rs. 4500-150-5700-200-7300)

An eminent scholar with Doctorate De- ee and published work of high quality ac- ely engaged in research. About ten years of experience of teaching and /or research. Should have guided candidates for research degree at Doctorate level successfully.

OR

An outstanding scholar with Doctorate Degree and established reputation who has made significant contribution to knowledge. Should have guided candidates for research degree at Doctorate level successfully.

2. READER (Scale Rs. 3700-125-4700-150-5700)

Good academic record with a Doctoral Degree or equivalent published work. Evidence of being actively engaged in (i) research or (ii) innovation in teaching methods or (iii) Production of teaching materials.

About five years experience of teaching and/or research provided that at least three years worked as Lecturer or in an equivalent position.

This condition may be relaxed in the case of candidates with outstanding records of Teaching/Research.

3. LECTURER (Scale Rs. 2200-75-2800-100-4000)

(a) Good academic record with Master's Degree in a relevant subject with at least 55% marks or its equivalent grade from an Indian University or an equivalent degree from a foreign University. Ph.D. in the relevant subject is desirable.

(b) Two years of teaching and/or research experience in relevant subject.

4. **LIBRARIAN** (Scale Rs. 4500-150-5700-200-7300)

(a) As prescribed by the U.G.C.

GENERAL INSTRUCTIONS

1. The candidates selected are liable for transfer to P.G. Centre at Krishnadevaraya Nagar, Sandur Dist. Bellary.

2. The prescribed application forms together with a copy of detailed advertisement containing details of qualifications prescribed etc. can be had from the Registrar, Gulbarga University, Gulbarga - 585 106 on production of Bank Challan for having paid Rs. 50.00, Rs. 25.00 in case of SC/ST candidates, towards application fee in the State Bank of Hyderabad, University Campus Branch (Out station candidates desirous of obtaining application forms by post should send D.D. of requisite fee drawn in favour of Gulbarga University, Gulbarga with a requisition and self addressed cover measuring 25 cms x 15 cms duly affixing postal stamps of Rs. 6.00)

P.Bore Gowda

REGISTRAR

ADVERTISEMENT FOR THE POST OF DIRECTOR

Kendriya Hindi Sansthan

AGRA

ADV. NO. -1/91-92/DT. 13.6.1991

Applications are invited for the post of Director, Kendriya Hindi Sansthan in the grade of Rs. 4500-150-5700-200-7300. (Likely to be revised to Rs. 5900-7300). The post carries all Central Govt. benefits as revised from time to time as per rules. Higher starting salary in deserving cases possible. Applications to reach the Dy. Secretary (Langs.), Govt. of India, Ministry of Human Resource Development, (Department of Education), (Room No. 211, "C' wing), Shastri Bhawan, New Delhi - 110001 on or before **22.7.1991** with a copy for information to the Secretary of the Mandal at the above address at Agra. Application forms will be available from the Secretary, Kendriya Hindi Shikshan Mandal, Hindi Sansthan Marg, Agra - 282005. Send self addressed envelope (28x13 cms) stamped for Rs. 3/- or obtain from the counter during working days 11.00 A.M. to 5.00 P.M.

Sponsored scholars from various academic organisations i.e. Universities/Institutes of higher learning are also be eligible to be considered.

ASSOCIATION OF INDIAN UNIVERSITIES

Applications are invited for one post each of Research Investigator grade I & II on a consolidated salary of Rs. 1250/- and 1,000/- p.m. respectively for the ICSSR Research project "Resource Mobilization by Indian Universities : Exploring Areas and New Forms of Revenue Collection, for $1\frac{1}{2}$ years only.

Candidate should have a good academic record with first or high second class MA degree in Economics for grade I post and second class in any branch of Social Sciences for grade II post. Experience in Social Sciences research in Economics of Education shall be preferred.

The jobs involve extensive travel to different university centres.

Interested candidates may apply on plain paper within 10 days to the Secretary, Association of Indian Universities, AIU House, 16 Kotla Marg, New Delhi 110 002.

QUALIFICATION AND EXPERIENCE

Essential

(1) Consistently good academic record with Ist or high second class (B+) Master's or equivalent degree in Hindi, Linguistics or Education.

Note:

In the case of candidates not having Master's degree in Hindi, Hindi as an elective subject at dgree level is essential.

(2) A Doctor's degree in any of the above on a lanugage related topic and/or published work of an equally high standard on the same.

(3) At least ten years experience of teaching and research at a University or an Institute in the field of language education, educational technology and applied linguistics, at least five years' experience as Professor is essential.

(4) Knowledge of modern Indian language(s) other than the mother tongue and Hindi.

(5) Experience of organising and directing academic programmes related to teaching and teachers training and production of teaching and testing material specially for instruction in Hindi as a second/foreign language as well as service medium.

(6) Adequate experience of institutional administration in a responsible capacity.

Desirable

(1) Knowledge of literatures and cultures of Indian regional areas.

(2) Acquaintance with activities and programmes of institutions actively engaged in propagation, research and planning in respect of Indian language.

(3) Learned publications other than the doctoral thesis.

Age Limit

Between 50 to 55 years on 1.11.1991.

Age of retirement is 60 years.

Relexation

In case of candidates otherwise well qualified, the Governing Council of the Kendriya Hindi Shikshan Mandal may relax any one or more of the above conditions. Besides the Governing Council may also consider other emminent scholars who might not have applied for the post.

UNIVERSITY COLLEGE OF MEDICAL SCIENCES & GURU TEG BAHADUR HOSPITAL, SHAHDARA

DELHI 110 095

ADVT NO.MC/ESTAB./2/11/91-III

Applications on the prescribed form are invited for the following posts in the Departments of :

A. TEACHING

Sr. Residents/Sr. Demonstrators in the prescribed scale of pay (Rs.3150-3350) for the Departments of Anatomy : (4); Biochemistry : (2); Physiology ; (4); Pathology : (3); Pharmacology : (3); Forensic Medicine : (1); E.N.T. : (1); and P.S.M. : (1).

E.Q.: P.G. degree of diploma in the subject concerned. Upper age limit: 30 years.

B. NON-TEACHING

1. Sr. Technician (Electronics) for Central Workshop (1 Post) : Rs.1640-2900; E.Q.: Diploma in Electrical Engineering of a recognised Institution with atleast three years practical experience of repairing, maintenance and handling of electronic instruments in a recognised workshop.

2. Jr. Technician (Electronics) for Central Workshop (1 Post) : Rs.1400-2300; E.Q.: Certificate in special trades and atleast 5 years experience in recognised institution.

3. Technical Supervisor (Veterinary) for Central Animal House: (1 Post) : Rs.1640-2900; NPA on Governments rates may be possible; E.Q.: A graduate degree in University Science or Animal Husbandary from recognised University with two years experience of breeding and care of Lab. Animals.

4. Technician (1 Post) for Central Animal House; Rs.1400-2300; E.Q.: Graduate in Science preferably with Zoology as one of the subjects. Diploma in Laboratory Animal Sciences Course/Lab. Animal Technicians Course (Desirable) Two years experience in Animal House and handling and breeding animals in a recognised/Govt. Research Institution.

5. Public Health Nurse for P.S.M. Dept. (2 Posts out of which one post reserved for S.C.); Rs.1400-2300; E.Q.: B.Sc. Nursing or 'A' grade Nurse with Health Visitor training or 'A' grade Nurse with Public Health Training.

6. Health Educator for P.S.M. Dept. (1 Post reserved for S.C.): Rs.1400-2300; M.A. in Social Sciences; Diploma in Health Education. Two years experience in the field.

7. Health Inspector for P.S.M. Dept. (3 Posts out of which one post reserved for S.T.): Rs.1200-2040; E.Q.: Hr. Secondary or equivalent qualifications with successful completion of sanitary Inspector Course (ii) experience of working in PHC.

NOTE:- Qualification and experience can be relaxed in exceptional cases on the recommendations of the Selection Committee.

The prescribed application form can be obtained from the office of the University College of Medical Sciences & Guru Teg Bahadur Hospital, Shahdara, Delhi 110 095, personally or on written request alongwith a self-addressed envolope of size 28 cm. x 13 cm. with postage stamps worth Rs.2/-. The cost of one form for the Teaching post is Rs.2/- which can be sent, if required, by post, by Indian Postal Order drawn in favour of the Principal, University College of Medical Sciences, Delhi 110 095.

Duly filled in application forms with all required documents etc. should reach the College Office latest by 10.7.1991 upto 4.00 p.m.

PRINCIPAL

NATIONAL INSTITUTE OF EDUCATIONAL PLANNING AND ADMINISTRATION

17-B SRI AUROBINDO MARG, NEW DELHI 110 016

Applications are invited for one post of Project Assistant at a consolidated salary ranging between Rs.2200-2500/-p.m. for the project 'Education in the Year 2000'

Essential Qualifications

At least High Second Class Master's Degree in Economics/ Statistics.

Desirable

i) Familiarity with Quantitative Techniques and their empirical applications to socio-economic problems.

ii) Ph.D/M.Phil degree preferably based on use of Quantitative Techniques in dissertation.

Age: below 30 years.

Completed applications neatly typed on plain paper giving full particulars of bio-data should reach the undersigned latest by **3rd July, 1991.**

Office of the Registrar
DIBRUGARH UNIVERSITY
DIBRUGARH
ESTABLISHMENT BRANCH
ADVERTISEMENT NO. 6/91

Application are invited for the following posts:

. 2 (two) Post of Professor in Assamese - 2 (two) posts are Open.

. 1 (one) Professor in English - Open

. 1 (one) Professor in Pharm. Sciences - E.Q./Spl. = Master's degree in one branch of Pharmacy after obtaining a basic degree in Pharmacy with 10 (ten) years teaching experience out of which 5 (five) years must be as Assistant Professor/Reader at degree level.

Or

Master's degree in any branch of Pharmacy after obtaining Ist class basic degree in Pharmacy followed by a Doctorate degree or equivalent published work of high standard in appropriate branch of Pharmacy with 10 (ten) years experience in teaching at degree level/industry/research out of which atleast 5 (five) years must be as Assistant Professor/Reader or equivalent.

(ii) Selection through the prescribed Institutional procedures.

. 1 (one) Professor in Petroleum Technology – Spl. Open. E.Q. = (a) An outstanding Scholar with Established reputation who has made significant contribution to knowledge in specialised field. (b) Master degree in Chemical Engineering, Resevoir Engineering, Geology, Geophysics or Chemistry with a minimum of 10 (ten) years experience either in teaching or work experience in Industry in allied field (c) Ph.D. degree.

. 1 (one) Reader in Assamese – Spl Group "B" (Language) Assamese.

. 1 (one) Reader Economics – Spl. Open (Desirable Labour/Industrial ethics

. 1 (one) Reader in Pharm. Chemistry. – E.Q., /Spl. = Master's degree in Pharm. Chemistry after obtaining a Ist Class basic degree in Pharmacy with 8 (eight) years experience as Lecturer in degree level or Master degree in Pharm. Chemistry after obtaining Ist class basic degree in Pharmacy followed by a doctorate degree or equivalent published work of high standard in appropriate branch of Pharmacy with 5 (five) years experience in teaching at degree level/industry/research.

(ii) Selection through the prescribed Institutional procedures.

8.1 (one) Reader in Political Sciences – Spl. = Political Theory.

9.1 (one) Lecturer in Assamese (Edu. Deptt.) – (i) M.A. in Assamese in language Group. (ii) The candidate should have any one of the following subjects in B.A. level: Political Sciences, Economics, History. (iii) Candidates with B.T./B.Ed. degree will be preferred.

10. 1 (one) Lecturer in Pet. Technology - (a) B.E. or M.E./M.Tech. in chemical engineering and a post graduate degree or diploma in Petroleum refining and petrochemicals with a minimum of two years experience either in teaching or in Refining/Petrochemical Industry.

(b) A candidate with a Ph.D. degree will be given preference.

11.1 (one) Lecturer in History - Spl. Open * Those who have applied already in response to Advt. No. 7/90 need not apply again.

12. 1 (one) Lecturer in Pharmaceutics/Pharm. Microbiology – Ist class Master degree in Pharmaceutics/Pharm. Microbiology after obtaining a basic degree in Pharmacy.

(ii) Selection through the prescribed Institutional procedures.

13. 1 (one) Lecturer in Applied Geology – Spl. = Geophysics/Exploration Geophysics/Geostatistics & Geomathematics/Remote Sensing and Environmental Geology.

14. 2 (two) Lecturer in Sociology - 1 Open. 2. Techniques in Social Research Methodology/Criminology.

15. 1 (one) Lecturer in Anthropology – Spl. = Physical Anthropology.

Scale of Pay

For Professor - Rs. 4500-150-5700-200-7300

For Reader - Rs. 3700-125-4950-150-5700

For Lecturer - Rs. 2200-75-2800-100-4000

All posts carry usual allowances as admissible under the University rules in force from time to time and the incumbents will be eligible for contributory Provident Fund and Gratuity on confirmation as per rules of the University.

E.Q. For Professor : (a) An eminent scholar with published work of high quality actively engaged in research, ten years experience of teaching and/or research experience or guiding research at doctoral level.

Or

(b) an outstanding scholar with established reputation who has made significant contributions to knowledge.

For Reader (a) Good academic record with a doctoral degree or equivalent published work. Evidence of being actively engaged in(i) Research, (ii) Innovation in Teaching Materials.

(b) Atleast five years experience of teaching and /or Research provided that at least three years experience as Lecturer or in equivalent position.

For Lecturer (a) A doctorate degree or research work of an equally high standard; and

(b) Consistently good academic record with Ist class or high 2nd class (in the seven point scale) Master degree in a relevant subject from an Indian University or an equivalent degree from a foreign University.

Having regard to the need for developing interdisciplinary programmes, the degree in (a) and (b) above may be in relevant subject. Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above for the post of Lecturer.

Provided further that if a candidate having a Doctorate degree or equivalent research work is not available or is not considered suitable, a person possessing consistently a good academic record (weightage being given to M.Phil. or equivalent degree or research work of quality) may be appointed provided he has done research work for atleast two years or has practical experience in a research Laboratory/Organisation on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within eight years of his appointment as Lecturer failing which he will not be able to earn future increment until he fulfils these requirements.

Provided further that if a candidate has first class career (60% or above marks) all through from Matriculation upto the Master degree level, such a candidate can be duly considered by the Selection Committee for appointment as Lecturer by relaxing the qualifications for research experience degree.

9 (nine) copies of applications in plain papers giving full biodata including (1) Name in full (in block letters), (2) Father's name, (3) Date of Birth, (4) (a) Permanent address, (b) Present address, (5) Present occupation if any, (6) Present salary drawn if any and the salary expected, (7) Academic career in detail from Matriculation/upwards showing division/class, aggregate percentage of marks, school/College/University from which appeared (Attested copies of Marksheets, Certificates should be enclosed), (8) Details of appointment held with designations, duration, nature of works and name of employers, (9) Research contributions with copies of reprints or research experiences supported by documentary evidence, (10) Name and address of 2 (two) referees not related to the candidate together with an application fee of Rs. 10/- (Rupees ten) and Rs. 5/- for the S.C. and S.T. candidates only by crossed I.P.O. drawn in favour of the REGISTRAR, DIBRUGARH UNIVERSITY, DIBRUGARH should reach the undersigned on or before **10.7.91.**

The number of this advertisement and name of the post applied for must be referred to in the application. Persons already in employment should apply through proper channel or with "No Objection Certificate" from the present employer.

All prints of the research papers published must be attached.

Applications not in conformity with the above requirements will not be entertained.

Candidates will be required to appear before in interview, if and when called for.

REGISTRAR I/C

DR. YASHWANT SINGH PARMAR UNIVERSITY OF HORTICULTURE AND FORESTRY

"ESTABLISHMENT BRANCH"

NAUNI (SOLAN) - 173230

ADVERTISEMENT NO. 5/91

Applications are invited for the following posts on the prescribed form obtainable from the Office of the undersigned personally or by making written request accompanied by self addressed envelope 23 x 10 cms bearing stamp of Rs. 8.00. The detailed instructions regarding qualifications and other conditions will be supplied alongwith the application form. The cost of aplication form for all posts is Rs. 10/- (Rs. 5/- for SC/ST subject to production of proof) which should be sent through Indian Postal Order(s), payable to the Comptroller, Dr. Yashwant Singh Parmar University of Horticulture and Forestry, Post Office Nauni, District Solan - 173230 (Himachal Pradesh). The application form duly completed alongwith attested copies of testimonials and list of publications etc should reach the Registrar, Dr. Yashwant Singh Parmar University of Horticulture and Forestry, Post Office Nauni, District Solan - 173230 (HP) by **31.7.1991.** Request for supply of application form without requisite fee shall not be entertained. The candidate applying for more than one post should send a separate application for each post.

The candidates, who have already applied for the post of Technical Assistant Grade - I (Computer and Instrumentation Centre) in response to Advertisement No. 1/91 dated 4.1.1991 need not apply again. However, they may send their upto date biodata (s).

Candidates applying from abroad may send their applications on plain paper giving full particulars of date of birth, examinations passed from High School onwards with division and percentage of marks obtained in various examinations, teaching/research/extension education experience with a list of publications, if any, so as to reach the undersigned by **16.8.1991.**

I. POSTS IN THE UGC SCALE OF Rs. 3700-5700

1. Associate Professor (Floriculture and Landscaping) — (1)
2. Associate Professor /Scientist (Post Harvest Technology) — (1)

II. POSTS IN THE UGC SCALE OF Rs. 2200-4000

1. Assistant Professor/Assistant Scientist (Medicinal Plants) — (1)
2. Assistant Scientist (Horticulture) — (1)
3. Assistant Scientist (Soil Microbiology) — (1) (Leave vacancy for one year)
4. Assistant Horticultural Technologist — (1)

III. NON-TEACHING POSTS

1. Assistant Estate Officer — (1) (Rs. 2200-4000)
2. Technical Assistant Grade — I (Rs. 1640-2925)

   (Computer and Instrumentation Centre) — (1)

B S Nainta
REGISTRAR

MAHATMA GANDHI UNIVERSITY

Priyadarshini Hills PO
Kottayam 686560

NOTIFICATION

NO. AD.ALL (1)47/91/ADMN.
Dated June 15, 1991

Applications in the prescribed form are invited from qualified candidates for appointment to the following four posts of Lecturers in the School of Social Sciences under the University. The appointments will be governed by the provisions of the Mahatma Gandhi University Act and the Statutes and Ordinances applicable thereunder.

1) Lecturer in Economic Anthropology (Open)
2) Lecturer in Socio Linguistic Philosophy (Reserved for Ezhava)
3) Lecturer in Historical Sociology (Open)
4) Lecturer in Ethnography (reserved for SC/ST)

In the case of posts reserved for a particular community, if suitable candidates are not available from that community, the said community will be passed over and the post will be filled up by suitable candidates from reserved communities as per the priorities in the relevant rules. If suitable candidates are still not available, the post will be filled up by open competition candidates.

Scale of pay : Rs.2200-4000

Qualifications,Age,Application fee etc.

The details of qualifications and experience etc. as per UGC norms can be had from the office of the University alongwith the prescribed application form on request by post or in person on production of a State Bank of Travancore pay-in-slip for Rs.10/- remitted under Mahatma Gandhi University Fund Account and in the case of persons residing outside the State, by means of a crossed Postal Order for Rs.10/- drawn in favour of the Finance Officer of the University payable at Priyadarshini Hills PO. Demand Drafts will not be accepted. Those who want to get the application form by post shall send a self addressed envelope of size 27cmx12cm affixing postal stamps worth Rs.2/- alongwith their requests.

The last date for receipt of completed application in the University Office is July 6, 1991.

Dr M.C. Chacko
REGISTRAR

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